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Editorial

THOUGHTFUL growers are giving patient consideration to the many aspects affecting their industry. While the present situation both as regards export and local marketing presents many difficulties, it is also true that methods for improvement are being sought and with every prospect of ultimate success.

Unfortunately the export prices for Apples have again been unsatisfactory, despite all the improvements in packing and the regulation of total quantities.

It is all too apparent that there has been again this season a superabundance of fruit arriving in London at the one time. In one week over half a million cases were landed, seriously glutting the market. This is a situation for which no remedy has as yet been found, though diligently sought. Does the solution lie in the storing of the fruit in London until the surplus is cleared? This involves other considerations, including sufficient control to make the action effective. The Australian fruit industry would do well to have its own permanent representative in London, with sufficient power to so handle the quantities coming forward as to supply the various United Kingdom markets with the needed quantities. The question of bought fruit comes under consideration in this connection, nevertheless the outstanding need is the power or facility to regulate supplies in the interests of all. These repeated slumps in prices are no good to any one.

At the Adelaide conference of the Australian Apple and Pear Export Council, special attention was paid to this subject of marketing in England, the need being expressed for action to improve present conditions. This was deemed to be one of the most important matters under review, bearing in mind the improvements at the Australian end in regard to reduction of varieties, improved grading and packing, State quotas and the determination of the total quantity (in consultation with New Zealand).

Some further improvements at the Australian end are hoped for in the concentration of the export Apple pack through packing houses and possibly the organising of the business on a co-operative basis.

It is quite certain that Australia needs to export not less than this year's totals, as the local market is certainly not yet able to take care of greater quantities than are at present coming forward.

Improvements in the export and local markets must go hand in hand. The two cannot be separated.

With regard to local marketing, an educational publicity campaign is about to be launched.

All connected with the industry would have preferred this publicity campaign to have been commenced months ago, but circumstances arose over which the leaders of the industry had no control; it is hoped, however, that the publicity campaign will have the effect of so stimulating sales that the large surplus, now so apparent in the Eastern States, will be effectively disposed of.

The industry will need to make up its mind that this publicity enterprise shall be continuous. A sum of money will need to be set aside each year for educational publicity purposes.

Concurrently with this there arises the necessity for the reduction of varieties for the local market with more strict administration of the grading regulations. Far too much low quality fruit finds its way to the markets, in addition to the deplorably large quantities of low-grade fruit hawked through the country districts by means of motor lorries.

There is no royal road to success. There must instead be the facing up to plain facts and the adoption of businesslike procedure in the production and marketing of one of the Creator's most marvellous gifts—the Apple.

PERSONAL.

Mr. Chas. Parnham, well known to Victorian fruitgrowers as an exporter for Australian Apples and Pears, has been under the doctor's care for the past six weeks. Latest reports from his office state that he is making good progress towards recovery, and hopes to be back in harness within a short period. We extend sympathy and hope that his expectation of an early return to work is realised.

NEWS IN BRIEF.

Great Britain consumed 1½ billion cans of food last year, showing how greatly the use of canned food has developed. She cans about one-third of her requirements and Australian-canned fruits and meats contribute to the remainder. Demands for greater variety in her canned fruit and vegetables are being made by distributors.

Sixty oil burners per acre were reported at the Waikerie Conference of the Horticultural Bureau to be sufficient to save vines from frost effects.

A branch of the Agricultural Bureau was formed at Griffith (N.S.W.) on June 10. The first officers elected were: President, Cr. Reilly; Vice-Presidents, Messrs. Kubank and Gibbs; Hon. Secretary and Treasurer, Mr. J. R. Aiton.

The Tasmanian crop is heavier this year than last. Cases for export packing were in short supply. A full report appears elsewhere.

The sale of large fruit, Apples, Pears, etc., by count instead of by weight is growing in favor. Many shops have already adopted this system, and the reaction of consumers is favorable. The Victorian Fruit Marketing Association is arranging a deputation to the Minister for Agriculture to impress upon him the advantages of sale by count and to enlist his assistance in making the method uniform. The deputation will be introduced by Mr. J. G. B. McDonald, M.L.A., who believes that the sale of most fruits by count would receive the approval of producers, distributors and consumers alike.

In 1939, two big World's Fairs will be staged in New York and San Francisco. The California Wine Industry will have elaborate exhibits in both.

Letters to the Editor

POWER ALCOHOL FROM FRUIT.

(To the Editor, "Fruit World.")

Sir,

In view of the enormous waste of inferior fruit, and the absence of oil in Australia, why is no attempt being made to turn the inferior and excess fruit into power alcohol?

Any vegetable matter will distil alcohol, it can also be easily made offensive to taste and smell. Ethylene gas, until recently a waste product of petroleum stills, is now being absorbed in sulphuric acid, decomposed with steam, and pure ethyl alcohol is obtained.

In France and Germany, 40 per cent. of alcohol, obtained principally from Potatoes, Turnips, Rye and Grapes, is by law compulsorily mixed with petrol, whilst United States America, one of the largest distillers of petrol, is at present distilling large quantities of power alcohol from Maize, to combine with petrol.

Australia, dependent on overseas for petrol and lubricating oil, has a large waste in all agricultural and horticultural products, from which industrial alcohol could be distilled. Queensland, with large areas of Sugar Cane, and Banana plantations, attempted by law to compel petrol to be combined with power alcohol in that State, but the law was challenged in the courts by vested interests and proved ultra vires.

Admitting that the Australian Government makes millions of pounds from petrol taxes, it is nevertheless shortsighted, not to use the constant waste from a variety of agricultural products, and is, in a military sense, suicide.

During the war, when petrol was little used, and almost unobtainable, a friend, experimenting at Melbourne University with power alcohol, filled the tank of my motor cycle with alcohol, and I found no difference in starting or in mileage as compared with petrol.

Yours, etc.,

A. J. FARRANCE.

Vermont, Vic., 20/5/37.

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NS03

THE N.Z. EMBARGO.

Oranges v. Potatoes.

(The Editor, "Fruit World an Market Grower.")

Sir,

A sensible approach towar solution to the Citrus-Potato squa (N.S.W. v. N.Z.) was made rece when the Central and Coastal Dis Council of Fruitgrowers of N.S proposed offering New Zealan share of their Potato and Apple quirements in return for New land offering N.S.W. a share of t citrus import business.

Hitherto this problem has been proached from only one angle, that was N.S.W. Citrus to N.Z. no reciprocity, and if the barrier in existence is broken down there pears some gleam of hope for N.Z. Potato grower, who is, from sent indications, in for a record this season. Last year, with only ordinary crop, and despite seve shipments to South America, tho ands of sacks of Potatoes were bu in tips or went to pig farms gra both in Wellington and Christchu round about Christmas time, and same thing can happen again year if no relief for the Potato gr er can be found.

Mr. "Orange" has this advanta however, inasmuch as he has ad cates in plenty over in N.S.W., whe as it appears to be nobody's busin in New Zealand whether Mr. "Po to" is dished or dumped. All the d advanced by Victorian Potato gro ers about our tubers being possess of every known disease, and then so more, is all "hooey," and they are f tunate in being able to get away wi that story for so long, and to th own particular advantage.

I am, etc.,

"DAKOTA,"

Wellington, N.Z., 24/2/37.

SOUTHAMPTON AS A PORT

(The Editor, Fruit World.")

Sir,

As the Australian representati for the Port of Southampton, I ha made a careful study of Mr. W. Carne's report on the Apple and Pe season for 1936, on behalf of t C.S.I.R.

During my travels, I have receiv varying opinions from a number shippers regarding the opinions e pressed by Mr. Carne, but think th everyone will agree that the actu data provided is of very great valu irrespective of the right or wrong Mr. Carne's opinions expressed in t report.

Both in the case of Apple and Pe shipments, it points very strongly the fact that time and careful han ling are very essential factors in de termining the condition of the fru as far as the English market is co cerned. This certainly does not appl in a number of cases—more particu larly in the earlier shipments Apples, but the later shipments see to be very seriously affected, an time apparently plays a very big par in the condition on arrival in Eng land. As far as Pears are concerne at all periods of the season the spee of reaching the English market fro actual data obtainable, seems to b of the utmost importance.

Apparently, during the season 1936 quite a number of shipments of Pear arrived in a forward to ripe condition which seriously affected the price that were obtained.

Altogether apart from its value a a local market, I have stressed the considerable saving in time that Southampton has to offer, and also the landing facilities which mean less handling and much quicker arrival on

(Continued on Page 5, 1st Column.)

...sect Pests and their Control

WINTER SPRAYING

...een Peach Aphid Control — Full Cover of Spray Necessary

HE Green Peach Aphid is one of the principal aphid pests of fruit trees in Victoria, wrote ...rhley Ward, Assistant Entomolo... in the "Victorian Agricultural ...rnal."

is of far greater economic im...ance on the Peach and Nectarine ... on any other fruit tree. It has ... been found on Apricot and ...ond trees, but has caused very ...e injury to those fruits.

...he Green Peach Aphid passes ...ough the Winter in the egg stage, ... eggs being laid in Autumn mainly ...ind bugs on the laterals, also in ...ning wounds, small cracks, etc., on ...ch and Nectarine trees. These ...gs hatch in late Winter, and thus ...vide the source from which the ...es become infested in Spring. The ...d of damage which this aphid ...ses to Peach trees, and the extent ...may reduce the fruit crop and de...oy fruiting wood, are too well ...own to warrant description here. ...Since the Winter eggs on the trees ...e the source of Spring infestation, it ... obvious that an effective egg-kill... spray applied before they hatch ...il prevent an outbreak of the aphid ... any particular orchard. It has ...en proved that properly prepared ...r distillate washes are the most suitable sprays to use against the egg stage. Since egg-laying is completed as late as the middle of June and hatching usually commences late in July, it is necessary to apply the spray within this period. Then again, tar distillate, like other Winter sprays, must be applied while the trees are completely dormant in order to prevent plant injury from occurring. Provided this simple condition is complied with, no injury is likely to occur. The strength at which the material is used is given on the container by the manufacturer, and is usually 3 per cent. This spray destroys the eggs probably by "penetrating their surface layers and coagulating the protoplasm of the underlying tissues."

Peach growers are advised to examine carefully large numbers of laterals on their Peach trees and to adopt control measures if any eggs at all are discovered on or behind the buds. It has been definitely observed that under favorable climatic conditions in Spring a serious infestation can arise when only two or three eggs occur on each lateral 12 to 15 inches in length.

Complete Cover Essential.

The object to be aimed at in all spraying is to obtain complete cover of the trees with the spray, in other words, to spray with such care and thoroughness that all parts of the trees above ground are covered, i.e., all the rough bark, pruning wounds, branches, twigs, and all of the buds on the twigs. The prime importance of this in Winter spraying is obvious, for, with those pests which over-Winter on the trees in a dormant stage, every bud and crevice is a potential centre of infestation. Emphasis can be added to this point by pointing out that hundreds of mites may over-Winter under the scales of a single bud, and again, on a small Pear branch an inch in diameter, thousands of San José scales may occur on every inch. If only twenty eggs of the Green Peach Aphid on a Peach tree escape contact with the spray and hatch, the resulting progeny in the fourth generation (i.e., by early Summer) would amount to about eighteen millions of individuals, provided that only half of those born were able to reach maturity.

LETTERS TO THE EDITOR.
(Continued.)

...e London market, when Southamp...n is being used as the port of dis...arge. Admittedly, the cost of ...aching the London market via ...outhampton costs approximately 1½d. ...r case more than the present ...ethods, but when the condition of ...e fruit is going to show a consid...able improvement, due to the sav...g in time and less handling, the ad...antage in price should more than ...mpensate for this slight extra ...harge.

Altogether apart from the writer's ...ersonal interest in the Port of ...outhampton, the actual facts must ...ive food for thought and earnest con...deration, for it is Australia's con...ern to have her products placed on ...e English market in the best pos...ible condition to ensure the highest ...ossible prices and the good opinion ...f every consumer of Australian fruit ...nd produce in England.

Those responsible for the handling ...f affairs at Southampton Docks, have ...nade it their business to cater for ...he most careful handling of all per...shable produce and for the quickest ...ossible method of reaching the main ...entres of England, and this fact has ...been recognised by the majority of ...countries throughout the world, and South Africa, in particular, lands practically every case of fruit from that Dominion at Southampton for the reasons set out above.

Yours, etc.,
C. F. BEVAN.
55 York-street, Sydney, 6/5/37.

SUPPORT.

The quack was selling an elixir which would make men live to an old age.

"Look at me," he shouted. "Hale and hearty—I am over three hundred years old."

"Is he really as old as that?" asked a listener of the youthful assistant.

"I can't say," replied the assistant, "I've only worked for him for a hundred years."

Green Peach Aphis

Control Measures

In certain districts in the central division of N.S.W., reports indicate that the eggs of the green Peach aphis are being laid extensively on stone fruit trees at the present time, and this indicates the probability of a heavy infestation in the Spring. Should the latter prove to be the case, the leaves and blosoms are likely to become distorted and shrivelled, while large numbers of the blossoms will fail to set fruit.

Officers of the entomological branch of the Department of Agriculture state that egg-laying occurs more generally in the colder districts. The eggs are minute, shining black, and are deposited on the Peach trees mainly round the base of the buds by wingless egg-laying females during June. These eggs hatch about the end of July or early August, and minute wingless aphides appear. These remain on the trees, but do not increase in number to any extent until the buds burst, when they commence to develop rapidly, and enormous numbers of young are producer. It is then that injury to the buds becomes evident.

Winged generations are produced in the early Summer, and the migration from Peach trees to secondary host plants begins. The aphides live mainly on these hosts throughout the late Summer and Autumn, and in late Autumn winged forms fly back to the Peach trees, where the egg-laying females are produced.

A tar distillate spray applied to the trees when they are completely dormant, and after the last of the over-wintering eggs have been laid, will destroy the latter, thus preventing any hatching in the Spring. The time at which these sprays should be applied varies in different districts. In the irrigation area the best time is from about the middle of June until towards the end of July.

Tar distillate at a dilution of 1 to 35 gives complete control. If a more concentrated solution of tar distillate than this is used on Peach trees, some injury to the buds may occur, even during complete dormancy.

San Jose Scale

Winter Treatment of Infested Trees.

THERE ARE STRINGENT regulations agains the export of fruit infested with San Jose scale, and it is again seasonable to remind growers concerning control measures for this pest, states the N.S.W. Department of Agriculture.

This scale is a pest of deciduous fruit trees, infesting the trunk, limbs, twigs and fruit of Apples, Apricots, Peaches, and Almonds, as well as a number of trees and shrubs. The scale is roughly circular in shape, slightly convex, about one-twelfth of an inch in diameter, greyish in color, with a yellowish area in the centre.

San Jose scale makes its appearance at first on a few trees scattered throughout the orchard, and every effort should then be made to prevent its spread. The infested trees are most easily picked out when harvesting, as the scale causes reddish blotches to appear on the skin of the fruit, and where this is evident the trees can be marked for attention during the Winter. Where this has been omitted it is advisable to spray the entire orchard, as the scale can be easily overlooked on the trees themselves.

The Control Recommended

is to spray the trees with miscible oil at the rate of 1 gallon to 20 gallons of water. The trees should be pruned before spraying and the prunings burnt. Used at full Winter strength, lime-sulphur also gives fair control, but is not recommended in preference to miscible oil, except on those varieties of fruit trees where it is desirable to use it for the control of fungous diseases.

Where the infested trees have been marked during the picking of the fruit and spot-spraying is practised, the adjacent trees should also be sprayed.

BLACK SPOT IN APPLES.

W.A. Takes Precautions.

The W.A. Department of Agriculture announces that as that State is free from Black Spot disease, all Apple trees imported into the State must be stripped of leaves before being shipped, and, as a further safeguard, sprayed with a Bordeaux mixture. Should any trees from Eastern States nurseries be found to be affected with black spot, they will be destroyed upon landing.

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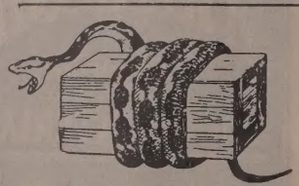

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23 HYDE STREET, ADELAIDE

Queensland Agents:

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495 ADELAIDE STREET, BRISBANE

Controlling Plant Disease

Sprays and Equipment

DEALING COMPREHENSIVELY with the incidence of plant diseases and the best methods to be adopted in controlling same, Dr. R. J. Noble, Plant Pathologist of N.S.W. Department of Agriculture, recently stated that it was regrettable that adequate facilities were not yet available for a more complete assessment of the plant disease position in Australia, although reference to the subject had been made on so many occasions. Australia had as yet nothing to compare with the records of the Canadian service, and still less, with records such as those published by the Division of Mycology and Disease Survey of the U.S.A. Department of Agriculture.

In New South Wales, although it was realised 12 years ago that it would be difficult to secure the type of information desired, a definite plant survey had been initiated. The records had improved each year, the co-operation of observers had been secured. Special surveys on individual crops and on specific diseases had been possible from time to time, and a list of plant diseases recorded in the State had been published.

Control of some plant diseases might be effected by the application of relatively simple and inexpensive measures, the speaker stated.

Surveys in New South Wales demonstrated that the incidence severity of certain of our major f diseases varied not only from yea year, but also from district to dist within the State. Field experime also had shown that effective con in certain districts might be obtai by the utilisation of reduced n bers of spray applications, and by duced concentrations of spray terials. It was apparent that a f ther reduction in the costs of prod tion might be expected as a result additional work in this direction.

Spraying Equipment.

Dr. Noble, continuing, said that Department had frequently found difficult to locate areas in which spraying equipment had been reas ably satisfactory. Much more effici work could be done if spraying equ ment generally were capable of hig er pressures.

In other communities there h been a development of stationa spray plant systems. In New Ze land they were introduced in 1925, a were now widely used throughout t Dominion. At least 70 plants we reported to be in operation in Ta mania, and it was believed that the were additional areas in this State which their installation might be co sidered with advantage.

Ten Years of Service

C.S.I.R. Contributes Much

SINCE 1926 the Council for Scientific and Industrial Research has been carrying out work of national importance to the Commonwealth. So careful and scientific are its activities that many who do not appreciate the immense value of such work may be inclined to question the necessity of the expense so incurred. Its staff comprises some of the best-known scientists of the day, and it works in co-operation with the Departments of Agriculture in the various States, and its activities cover many forms of investigation that cannot but be of great value to the country.

Broadly speaking, its functions include the carrying out of research work in primary and secondary industries, the training of research workers, the collection and dissemination of information upon scientific and technical matters and the collaboration of similar work being done by Government and outside organisations. Also broadly defined, it is divided up into the following divisions: Plant Industry, Economic Entomology, Animal Health and Nutrition, Soil Research, Forest Products, and Food Preservation and Transport.

As of more particular interest to orchardists, we briefly review the following facilities offered by the Council:—

Plant Industry: Central laboratories and experimental plant houses are situated at Canberra. Field experiments are carried out at Duntroo nearby in a 100-acre farm. Other ex perimental work is done in S.A. (pas toral plants); Tasmania (storage dis orders of fruit); Queensland (agros tological problems and root stocks); N.S.W. (Tobacco investigations).

Economic Entomology: Insects bre and tested under quarantine condition at Canberra, also parasites importe from abroad for experiment in at tacking orchard pests.

Animal Health and Nutrition: Mor particularly serving the beef an mutton industry and assisting in re ducing animal diseases.

Soils: Headquarters are at Waite Institute, Adelaide, investigations ar carried out in soil problems, irriga tion, etc. Other experiments are un dertaken in Tasmania and Griffith N.S.W.

Food Preservation and Transport: The main work, to date, has been in respect of chilled meat, but fruit storage and transport has received some attention, and is continuing. Cool stores, railways, and shipping companies are collaborating in this work and its benefit to the fruit industry will be great.

Periodical pamphlets and reports are issued, also a quarterly journal giving scientific information of the work done and the results achieved to date. The Council is successfully attempting to fill a need in Australia, and its service will be even more beneficial as time goes on.

ORIENTAL PEACH MOTH.

Parasites from America.

While abroad, Dr. Helson, of the Entomology section of the Commonwealth Institute for Scientific and Industrial Research will endeavor to secure in America parasites for the destruction of Oriental Peach Moths for shipment to Australia. After breeding here, they will be released on Peach crops in the hope of greatly minimising this problem.

Finance for the scheme is being provided by the Commonwealth Bank, Canned Fruits Control Board, C.S.I.R., and the Department of Agriculture. Dr. Helson will be absent about six months.

It is interesting to note, in connection with the above, that in 1927 the College of Agriculture of the University of California, sent an officer to Australia to secure Citrophilus Mealybug parasites. He returned with six breeders from which he immediately began breeding, with the result that successful control has been accomplished in mealybug-infested areas.

The "Cork" Diseases of Apples

Cork and Pit Diseases Compared

Method of Control.

WITH THE DISCOVERY that heart or crown rot in sugar beet and brown heart in es and Turnips are caused by ck of boron in the soil, the ion of the minor elements, particularly that of boron, leapt into prominence, and engages the attention of agricul- ists all over the world.

Many Cork Disorders.

the meantime, certain diseases ther crops, the origin of which hitherto remained obscure, have investigated, from the stand- t of boron deficiency, with positive lts. Foremost among these are "cork" disorders of Apples, which second in economic importance to now well-established root crop eases mentioned above. The "cork" eases are known in a variety of ms; hence the names Drought Spot, rnal Cork, Corky Pit, Corky Core, ter Core, Crinkle and Dieback. h the exception of Dieback, all are nected with the Apples themselves.

Most Countries Suffer.

he countries most seriously affect- so far appear to be New Zealand, stralia, Canada and possibly the ited States, but latest reports in- ate that the disease is to be en- ntered in Great Britain, Germany, land, and most other European ntries. The whole situation is newhat complicated by the many mes by which these diseases are own to workers in different coun- es, and also because of some con- sion with the Bitter Pit trouble, the use of which is still unknown. The llowing table giving their occur- nce and symptoms is an attempt to arify the position as far as is pos- ble from the present state of our nowledge:—

Comparison Between "Cork" and "Pit" Diseases in Apples.

"Cork" Group.

arious Forms of "Cork" Diseases and Occurrence.

(1) Drought Spot. — Severe in Western Canada and U.S., less fre- uent in Australia and New Zealand. ymptoms: Only form showing ex- ernal symptoms on the fruit, which ease to grow and become cracked, usseted and deformed.

(2) Corky Pit.—Name adopted pro- isionally by Atkinson (N.Z.), in his riginal report; might now be con- idered a misnomer. Symptoms: Not true "pit" disease.

(3) Corky Core.—So far reported to be in New Zealand, Australia, U.S., and Canada. Symptoms: No external symptoms. A brown ring of dead tissue surrounds the core. If boron deficiency is acute, Drought Spot follows.

(4) Internal Cork.—Cause of nearly all the trouble in New Zealand and Australia, also known in Canada and U.S. and elsewhere. Symptoms: No external symptoms. Brown spots occur anywhere in the fleshy part of the Apple.

(5) Die-Back.—So far reported to occur in Canada and U.S.A. to great extent. Symptoms: Acute boron deficiency causes this disease of the tree itself. The terminal shoots die or give sparse and stunted growth. Heavy applications of nitrogen in- crease severity of disease.

The "Cork" Diseases are Curable by Boron.

General.—Light soils and dry seasons intensify these diseases. Not only the fruit, but the foliage react to boron deficiency. Characteristic leaf scorch on the latter.

"Pit" Group.

Various Forms of "Pit" Diseases.

(1) Bitter Pit.—Known in most countries where Apples are grown ex- tensively. Symptoms: Shows exter- nal symptoms—dark spots visible through the skin of the Apple. When cut transversely, a ring of brown spots situated just beneath the skin are apparent.

(2) Storage Pit.—Develops after the fruits are gathered and put in storage. Symptoms: Little is known about the exact nature and origin of this disease as yet.

"Pit" Diseases—Cure Unknown.

General: It has been definitely es- tablished that the "Bitter Pit" dis- ease is associated with a high moisture content of the soil. c.f. **Cork Diseases:** Up to the present it has defied all attempts at prevention.

Boron, Cure for "Cork."

What follows concerns only the "cork" group for which a definite cure has been found—that of fertilis- ing with boron.

In common with all boron deficiency diseases, the "cork" trouble occurs most widely on light soils in dry seasons. However, Askew's (1) more recent work (1935-6) shows that it is also prevalent on some soils when conditions for growth are normal, or even on the wet side. It appears likely that dry seasons merely accen- tuate or increase the extent of the disease. With the exception of Die- back and Drought Spot, no external symptoms are visible—exactly as is the case with Brown Heart in Turnips.

The importance of this problem needs no emphasis — these two examples speak for themselves:—

(1) The average crop of saleable fruit from trees treated with boron was increased in one year from 3.61 to 10.6 boxes per tree, whereas on the check trees it fell on the average from 3.8 to 2.5 boxes (McLarty, Canada) (2).

(2) Orchardists in New Zealand last season started experiments with borax themselves, whilst the exten- sive work of Askew was still in pro- gress.

Method of Control.

The question, then, is: How are th "cork" diseasee best controlled?

The original injection method, b which the curative effect of boron wa first discovered, was never intende for commercial use, and now that has been shown that equally good re sults can be obtained by broadcastin borax or boric acid on the groun around the trees, the treatment is ex tremely simple.

The cheapest form of boron consis tent with good results should be use hence ordinary hydrated borax is t be recommended, for it is difficult t believe that the addition of the sma amount of sodium present in the quan tity of borax which would be use can make any noticeable difference t the sodium content of the soil.

The boron can be applied also i the form of boric acid, but its cos per unit is greater than when bough in the form of borax. Results so fa obtained do not indicate that eithe material is more effective than th other.

Quantities Recommended.

The quantities to be used are eithe 46 lb. borax or 30 lb. boric acid pe acre. These amounts respectivel divided by the number of trees pe acre will give the dressing per tre which should be broadcast evenly ove an area not less than 20 feet in dia meter, e.g., 60 trees per acre will eac require ¾-lb. borax or ½ -lb. boric aci It is considered desirable not t sprinkle the boron compound withi 2½ to 3 feet of the base of the tre Autumn application is preferable, bu

"SPREGAN"

Colloidal Liquid Sulphur

For efficacious treatment of BLACK SPOT, BROWN ROT, DOWNY MILDEW, OIDIUM, and all Fungus Diseases for which Sulphur in any form may be used as a control.

SAFE - - - - Because it prevents Leaf Scorch.
CERTAIN - - Because it gives definite control of Fungus Diseases.
ECONOMICAL Because it ensures maximum results at less cost than other forms of Sulphurs.

As a Precautionary Spray, 1 lb. of "SPREGAN" to 100 gallons of water.
As a Combatant Spray, 2 lb. of "SPREGAN" to 100 gallons of water.

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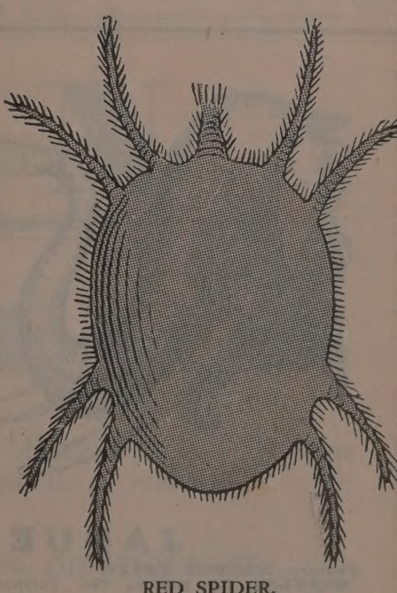
Gargoyle **RED Spraying Oil**

is the most effective control for the red spider, bryobia mite and other sucking insects that spend the winter in the form of somewhat flattened spherical eggs. As these mites feed through sucking mouth-parts which pierce the epidermis of the leaf, a poison spray is unsuitable. They should be controlled by a contact insecticide—suffocated by Gargoyle RED Spraying Oil

VACUUM OIL COMPANY PTY. LTD.



RED SPIDER.
A sucking insect immune to poison sprays of the arsenic type.

not essential, dressings up to the time of "set" having been successful in preventing these diseases. In fact, "Jamalainen" (Finland) (3) recommends sowing the boron compounds immediately after blossoming. No case has yet been recorded of injury to foliage by the amounts given below.

Following experiments of a preliminary nature, it has been found that borax can also be applied successfully as a spray, and the possibility of incorporating it in the routine lime-sulphur syrays is still under investigation. From New Zealand and Canada, there are indications that the use of boron increases the "set" of fruit and prevents premature falling of the crop.

In conclusion, it may be stated that several diseases in other fruits, viz., Drought Spots in Pears, Cherries and Apricots, and Gum Spot and Dieback in Plums and Prunes are said to respond to the use of the borax and boric acid.

References.

(1) The Use of Borax in the Control of "Internal Cork" of Apples, "N.Z. Jour. Sci. Tech.," Vol. XVIII., No. 4, pp. 365-80, 1936. H. O. Askew, E. Chittenden and H. R. K. Thomson.

(2) Injections with Boron and other materials as a control for Drought Spot and Corky Core of Apple. "Scientific Agriculture," Vol. XVI., No. 12, Aug., 1936. H. R. McLarty.

(3) The effect of boron on the occurrence of cork diseases in Apples, "Agric. Exp. Activities of the State," Publication No. 89, Helsinki, 1936. E A. Jamalainen.

THE IMPORTANCE OF BARK CULTURE.

Spraying Promotes Bark-Elasticity.

THE development of the fruit buds for the succeeding year's fruit is dependent largely on the ability of the tree to build up and sustain the healthiest possible leaf system for the maximum period. Only in this way can the necessary plant-food-energy be accumulated and stored for the future use of the tree. One of the most powerful influences on leafing is the condition of the bark on the tree. Only by keeping the bark in a state of elasticity can the free flow of life-giving sap through the cambium layer of tissue be assured.

Experiments conducted by Vacuum Oil Company in conjunction with prominent orchardists prove that dormant period spraying with Gargoyle red spraying oil is conductive to this very desirable bark-elasticity. Even a small knowledge of the botany of fruit trees enables the growers to understand the necessity for maintaining bark-elasticity.

The outer bark of fruit trees, and more particularly of the fruit - bearing wood upon the tree, is subjected to many ravaging influences, foremost among these being the hordes of invading insects which seek their sustenance, through the bark, from the succulent sap stream flowing below it.

The influence next in importance is the astringent action of fungicidal and insecticidal sprays normally used for the control of these pests and diseases. Again the rigors of certain climatic conditions have a drying, devitalising effect upon the bark, destroying its elasticity and preventing the cambium tissue from functioning as nature intended.

Tests with Gargoyle red spraying oil show that it safeguards against these three dangers to the health of the tree. Best results will be obtained by spraying close to the time of bud development, not before the end of July, but just when the first warm, sunny days and swelling buds indicate the approach of Spring.

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—One for the Soil—and the other as Dust

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"Coarse Grade"

Kills Pests in the Soil

IT STERILISES SOIL—most effective—but should never be dusted on young or sensitive plants.

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The Safe and Correct Method

FIRST—Sterilise the Soil with KILL-A-MITE (COARSE GRADE) MANURIAL INSECTICIDE, thus ridding the soil of the Pests and Germs which destroy so many seeds and seedlings, nipping them off before they are strong enough to stand.

SECOND—When the Plants begin to grow dust them frequently with KILL-A-MITE (SUPERFINE GRADE) MANURIAL INSECTICIDE to protect them from the ravages of visiting pests.

KILL-A-MITE DESTROYS PESTS,
PROMOTES GROWTH,
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Use "ELEPHANT" Brand Arsenate of Lead—Quality Stands Alone.

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We can supply all your Spray Requirements—ARSENATE OF LEAD (Paste or Powder), SPRAY SPREADER, SPECIAL COPPER MIXTURE, LIME SULPHUR, WHITE OIL, NICOTINE SULPHATE, RED OIL, Etc.

Extract "BETTER FRUIT," U.S.A., February, 1934: "Idaho Spray Programme for Codlin Moth Control, 1934," by Dr. Claude Wakeland, Department of Entomology, University of Idaho. Experiments in the State for the past six years have shown that LEAD ARSENATE is the best, as well as the most economical insecticide that we have tested for Codlin Moth control. Entomologists are agreed that there is no substitute for Lead Arsenate that can be recommended to the public.

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S.A.—Silbert, Sharp & Bishop Ltd., Rundle St. E., Adelaide.
W.A.—Westralian Farmers' Ltd., 569 Wellington St., Perth.
Tas.—R. Nettlefold Pty., Hobart. Bell & Gerrard, Launceston. Cocker, Bell Pty., Devonport.
N.Z.—Pizzey, McInnes Ltd., Box 1114, G.P.O., Auckland.

Victorian News and Notes

THERN GROWERS MEET.

the annual meeting of the ern Victoria Fruitgrowers' Asso- on July 1 at Box Hill, Mr. F. presiding, it was decided to sup- the Monday closing of the Vic- Market, to oppose the importa- of Californian quail, to oppose ompulsory closing of fruit shops aturday afternoons, and to ask C.S.I.R. to investigate control ures for the Oriental Peach moth. e Hon. G. F. Chandler, M.L.C., pening the conference, advocated selling of large fruit by count ad of by weight.

. G. W. Brown, president, M.A., told of contracting over- markets and the necessity for ing ahead with the Apple and publicity campaign to increase consumption in Australia.

r. W. C. Robertson, Chemistry De- ment of Agriculture, gave valuea rmation as to the composition and ing of orchard sprays.

r. W. A. Thiele was elected Pre- nt.

TORIA'S FRUIT PRODUCTION.

Gross Returns £3¼ Million.

ANKING as one of the larger agricultural industries, fruit- growing in Victoria is contri- ing a gross value to the State of 476,241, according to the statistics released by the Government Sta- and covering 1935-36. From this n has to be deducted selling rges, freight and marketing ex- nses to return to the growers 653,885 per year.

Fruit production, as did other pro- ction, increased over the previous ar, and a further £15,000,000 was ded by production in all industries 1935/6. The amount per head of e population increased from 9/5/4 to £57/7/1 in Australia's re- very from the recent world depres- n.

Under the programme of the U.S. epartment of Agriculture to elimin- e orchard pests from neglected anting, over 11,300 abandoned trees ve been removed from 35 different operties in Los Angeles County.

PAKENHAM YOUNG FARMERS' CLUB.

An enjoyable social evening was held in Mr. J. J. Priest's packing shed, Pakenham, on June 26. It was arranged by the Pakenham North Young Farmers' Club. Trophies won in Apple packing competitions at the previous Castlemaine and Pakenham shows were presented.

In the Junior Section two silver cups were presented to Miss Marjory Quick, first at Castlemaine Show, with 98 points, and first at Pakenham Show, with the maximum of 100 points.

In the Senior Section a gold medal was presented to Dick Priest, first prize at Pakenham Show.

A dance and supper concluded the evening. Among the visitors present were Mr. J. J. Ahern, who proved a capable Chairman, Mr. Scott and Mr. Coleman, who made their respective presentations, and Messrs. Krone and Harris, of the Department of Agriculture, who addressed the Young Farmers and congratulated them on their good achievements.

The growers in southern Victoria who contributed Apples for State Schools have rendered valuable assistance to the publicity campaign. So far 40 schools have been visited, and 25,000 scholars have been addressed on the subject of Apples and health.

Wandiligong Apples

The picture shown herewith is taken overlooking the Wandiligong Orchards Pty. Ltd., Apple orchard, in the north-east of Victoria. It is a show place in the district. During the past season 15,000 cases of first-grade Apples were packed. Of these, 5,600 cases were Yates of exceptional size and quality.

In submitting the picture, Miss M. Taylor writes, "As a packer, I find the "Fruit World" of much interest, and wish it every success."

TWENTY-FIVE PER CENT. INCREASE.

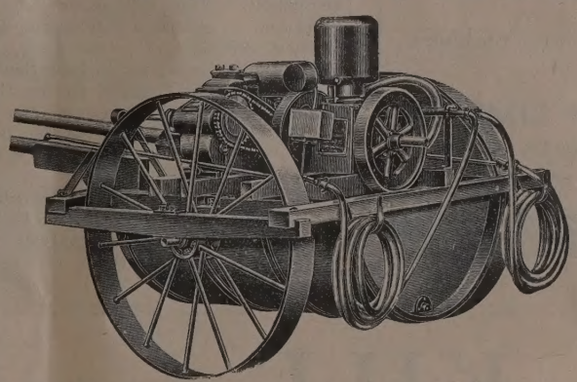
Pakenham's Apple Crop.

Railway shipments from Pakenham this year have eclipsed consignments at this period ever since 1933. Apples, Apples everywhere. Up to June 19, no less than 136,658 cases of Apples had been forwarded, of which 113,743 cases were for export. Compared with the same period last year, the figures were 90,416 and 75,193 respectively. In 1935 they were 74,441 and 66,977, and in 1934 the total quantity was 136,000 cases for the full season, whilst in 1933 the total quantity shipped out of the Pakenham district was 157,299 cases, so that it would appear that 1937 will create a record.

A further pleasing feature is that crop prospects for next season are good, and growers anticipate another heavy harvest, subject to no setbacks.

Mitchell Spray Plant with 3 H.P. **Lister Engine**

A HIGH GRADE COMBINATION IMPOSSIBLE TO BEAT



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MYERS' TYPE PUMP—Cylinders porcelain lined. Valves and seats rustless steel. Gears nickel steel, machine cut, hardened. Pressure constant.

PRESSURE UNLOADER — Automatically relieves pressure on engine and hoses when spray is closed.

STRAINER—Easily cleaned, as placed on top of vat—not inside it.

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£65,000 Public Company Formed.

Cave's Pure Fruit Drinks Pty. Ltd. has been turned into a public company with a nominal capital of £65,000 divided into 65,000 shares of £1 each. These shares are available to the public. The objects of the company and its prospects are set forth in the prospectus, which tells of increasing public demand for pure fruit drinks, the secret formula possessed by the company, and the estimated profits, on which a dividend of up to 10 per cent. is expected. The directors are Sir John Butters (Sydney), A Cave, E. P. M. Sheedy, and G. S. Swaine. The Secretary is Mr. F. L. Smyth, chartered accountant, 413 Collins-street, Melbourne, from whom prospectus and all details are available.

Feeding Your Fruit

A complete fertiliser—Nitrogen, Phosphate and POTASH — is the only commonsense means of replacing the plant food removed by your trees. Even if the crop fails the tree has drawn on plant-food reserves.

If fruit-spur or terminal growth is short, if the bark is tight, the fruit under-size or under-coloured, if "Die-back" or "Rosette" appears on the terminals, if leaves are pallid, limp or scorched on the margins—then the trees are under-fed with humus or fertiliser or both.

Full grown trees need 10 lbs. of 2:2:1 (W.A. "Special K"). Smaller or extra large trees, need proportionately less or more — but it must be a rich, balanced mixture.

SUN BRAND (registered) POTASH

For advice on general orchard problems write to:—

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F.3/36

POTASH MAKES *all* THE DIFFERENCE

New Aspects of Plant Nutrition

The Importance of the Minor Elements.

ONE of the most outstandng developments in agricultural science during recent years has been the recognition of the fundamental importance of the so-called "minor elements" in the nutrition of plants. For many years it was thought that only ten elements—carbon, hydrogen, oxygen, nitrogen, potassium, phosphorus, sulphur, magnesium, iron and calcium—were necessary for normal plant growth, but gradually research work has shown that many other elements are also essential. For the sake of convenience, all elements other than nitrogen, phosphorus and potassium may be classified as "minor elements," since only minute quantities of them are required for normal growth and development. It should be clearly understood, however, that this term does not mean that these elements are only of minor importance, as actually they are just as essential to plant growth as are nitrogen, potash and phosphoric acid.

Minor Elements and Fertiliser Practice.

It seems inevitable that this newer knowledge of plant nutrition will have marked repercussions in the fertiliser industry. In the past, artificial fertilisers have principally been concerned with making available additional supplies of nitrogen, phosphoric acid and potash, but it seems certain that the future trend will be towards fertilisers which, in addition, supply one or more of the minor elements necessary for normal growth and development. The use of dolomitic limestone, to control a magnesium deficiency chlorosis of citrus trees, is already being practised in New South Wales, whilst in England and on the Continent fertilisers containing boron are widely used to prevent the development of brown heart of Turnips and heart rot of sugar beet.

It will doubtless be of considerable interest to primary producers to learn that detailed chemical analysis of Chilean Granulated Nitrate of Soda, which is well known as a high grade nitrogenous fertiliser, has shown that in addition to nitrogen, sodium and oxygen, it contains no less than thirty other elements, a number of which such as boron, magnesium, manganese, calcium, copper and sulphur, are known to be essential for the normal healthy growth of plants. Recent investigations conducted by Dr. J. W. Shive, Plant Physiologist at the New Jersey Agricultural Experiment Station, U.S.A., have shown that Chilean Nitrate of Soda in itself contains sufficient available boron and manganese to promote the normal growth and development of many species of plants.

It is interesting to find, also, that it contains an appreciable quantity of iodine, and that a material increase in the iodine content of various plants can be effected by an application of this fertiliser.

The fact that Chilean Nitrate of Soda contains so many of the essential minor elements is due entirely to its natural origin, and is undoubtedly one of the reasons why it has been used so successfully for over one hundred years.—By Mr. Edwards, D.Sc.Agr.

CATALOGUES RECEIVED.

G. G. Cole & Sons, Tyabb, Vic.: Descriptive catalogue of fruit trees, vines, flowering fruit trees, etc. Notes on selection, planting and pruning are included. Fruits listed include Apples, Pears, Plums, Cherries, Peaches, Quinces, Apricots, Nectarines, Walnuts, Almonds, Oranges, Lemons, etc.

Two Bays Nurseries & Orchard Co. Pty. Ltd., Mooroduc, Victoria: Comprehensive fruit tree catalogue listing Apples, Apricots, Cherries, Citrus Fruits, Figs, Grape Vines, Plums, Berry Fruits, Nectarines, Passionfruit, Pears, Peaches, Quinces, etc. There is also a section devoted to flowering deciduous trees, nuts, Roses, Strawberries, etc. Helpful hints on control of pests in fruit trees are also included.

100% KILL

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Peach and Cherry Aphis

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(TAR DISTILLATE WASH)

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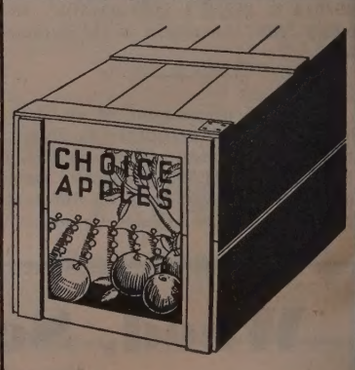

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New South Wales News and Notes

THE GRIFFITH (N.S.W.) DISTRICT

Report From Our Own Representative

FRUIT AND GRIFFITH have been related intimately for so long that a brief description of the district should be interesting. Within approximately five miles of Griffith will be found Wyangan, Ballinaclarence, Beelbangera, Bilbul, Yoogali and Hanwood, all fruit areas of no mean capacity. Lately, however, vegetable growing has been found to be a valuable asset to the district and Sydney markets are beginning to look for choice varieties from this district.

The township of **Hanwood**, four miles south, is rightly called the Northern suburb of Griffith. British-born, and many Italians have bought these red and chocolate lands, established orchards, vegetable and dairy farms, while considerable general farming is also carried on. The chief fruits grown are:—

Grapes: Cornichon, Ohanez, Sultanas, Gordo Blanco, Zante Currant and wine varieties — McWilliam's and Penfold's wineries purchase all of these that are not otherwise processed or marketed.

Peaches: Phillips, Golden Queen, Dillar's Cling and Elberta.

Oranges: Thompson's Navel, Washington Navel, Valencias and Mandarins.

Grapefruit and **Lemons.**

The bulk of the fruit passes through the processing and packing houses of Griffith, but there are many home sheds, equipped with graders, etc.

Beans, Peas, Potatoes and Tomatoes are also grown. At present Peas are being extensively planted, and some are ready to pick, which find their way to Sydney markets. Agents are keenly buying, and the town of Griffith is full of Brisbane and Sydney merchants' representatives.

Broom Millet growing is another industry. Bundles are sent to broom and brush factories. The stems make fodder for stock, and the seeds are used as feed for poultry.

Many orchardists practice sowing **cover crops**, chiefly Beans, for turning under in the Spring; barley straw is favored for ploughing under, especially in Orange groves; this helps to maintain the soil in a loose state, as well as conserving moisture.

Paspalum is growing 8 ft. long on private channels and headlands, and where cultivation has been neglected for a few weeks "fat hen" abounds and grows to a great size. It is difficult to keep growth of grasses down in these irrigation areas, the only way is to keep on cultivating, raking up and burning.

On the Hanwood-road, five miles south of Griffith, is **Mr. W. Smith's 50-acre orchard.** The traveller is impressed with the trimness and well-kept condition of the Apple patch on the road frontage, and further back of the plantations of Oranges, vines and Peaches.

Further south is **McWilliam's Hanwood Winery and Vineyards** of 250 acres. 6,000 tons, or more, of Grapes are annually crushed for wine, making over half a million gallons, about 20 per cent. of the Grapes are gathered on the home place and 80 per cent. purchased from district growers. The winery is equipped with the most modern machinery and appliances. The building covers 1½ acres of land and is constructed entirely of concrete, with iron roof—from its 100 ft. high concrete tower, a magnificent panoramic view is obtained of the surrounding lands, and is the district's famous landmark.

This industry gives employment to many local residents. Everything is fitted for complete, expeditious, efficient working, and comfort of the employees, being well lighted and ventilated. The planting on this property has been done further apart, than on most of the neighboring vineyards.

The spraying of citrus for scale and other pests has been universally superseded by fumigation.

This work is carried out by the Griffith Producers' Co-op. Co., who have all the appliances for the job—tents, poles, fuel, gas, etc., and is done thoroughly by a regular staff employed specially for the job—the cost to the grower is about 2/- per tree for large trees, costing less than oil spraying and cleaning up the trees of parasites splendidly. Most of this work is done at night time, when temperatures are right. As a rule one fumigation a year is sufficient for citrus. Thus growers of citrus only need no spray outfit.

The orchardists of Griffith fully realise the **futility of manuring** with artificial manures, unless the physical conditions of the soil are right. This can only be obtained by thorough cultivation, turning under bulk growth or in some instances by the application of lime, especially in heavy soils.

Subscribers who read the articles written by agricultural scientists, especially in the "Fruit World and Market Grower," on manurial and cultural practices, and put them into practical operation, watching results on their own properties and adjusting their method to suit the locality, will be successful in this respect.

Some orchardists (who are a small minority) state that horticultural papers tell nothing of technical news, but 90 per cent. of district orchardists, keep an open mind on all things pertaining to fruit growing, are ever ready to discuss and learn of anything that will better the industry, and incidently, their pockets.

The property of **Mr. D. G. Stark**, five miles out, catches the eye of anyone interested in a well-kept orchard. On the road frontage is the Orange grove laden with fruit, showing a beautiful dark green foliage, indicating perfect health. Beans 2 ft. high are growing profusely throughout the orchards, which are free of all rubbish: these Beans will probably be 8 ft. high when covering-in time comes round. This bulk mass of nitrogenous plants will keep the humus supply and physical conditions of the soil right up to par.

Mr. E. Taylor's 50-acre orchard is seen on the opposite side of road, where Apples, Oranges, Grapes, Prunes and Apricots are grown. Mr. Taylor declares his intention of eventually growing only canning Peaches and Grapes for the winery which adjoins his property. He is very enthusiastic about the virtues of the "large rotary hoe," drawn by a powerful tractor, stating this to be the only implement he knows of that will satisfactorily chop up and destroy, thick old patches of paspalum and other rooty grasses, also for pulverising any hard soil.

The **Cypress Pine**, which is a native of, and abounds in the Riverina districts of N.S.W., is used for electric telegraph and telephone poles, as well as fence posts and shed building, or wherever large straight poles are wanted, being durable, white ant and borer proof. It is also milled for weather and flooring boards, and the cut-off outside parts for shed walls. It has one strange peculiarity, being far more durable if used in the locality in which it is grown. This timber is one of Australia's great assets.

The Government has set apart reserves for the growing and preservation of these trees. Should any of these pines be left growing in the lands irrigated (flooded) for rice culture, they soon die, being essentially a slow-growing, dry country product.

Most of the fruitgrowers of Griffith are within a seven-mile radius of the town, and the rice and wheat people further out, it is the custom to grow these cereals alternately, the wheat benefiting from the soaking which the subsoil receives during the growing of that esculent grain. Some farmers claim that rice is the greatest agent in the prosperity of this region.

108,000,000 BUSHELS OF APPLES.

U.S.A. Production in 1936.

The lightest crop in fifteen years was the experience of Apple growers in U.S.A. in 1936. Of this quantity 68,000,000 bushels were consumed as fresh fruit. The main producing States were:—Washington, with 20,600,000 bushels. New York, with 7,378,000 bushels; Virginia, with 5,502,000 bushels, and California, with 4,757,000 bushels.

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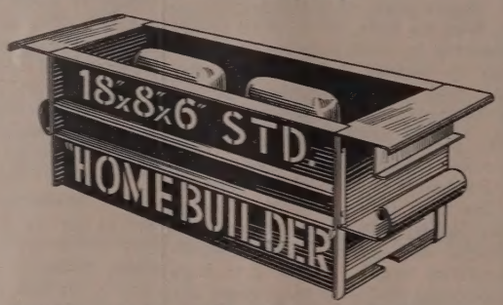

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New South Wales

SEASONAL REPORT.

THE following seasonal report is by courtesy of the N.S.W. Department of Agriculture, as applying to growing conditions in that state.

Heavy frosts and strong winds had been experienced around Bathurst. In a few instances, Apples and Pears came into bloom, owing it is said, to the effect of the light rains which followed the dry spell. This flowering will spoil the prospects of next season's crop on the trees affected. Budding of pome fruits appears to be satisfactory in this district and around Goulburn.

It is also fair to good on Jonathan, Rome Beauty, Cleopatra and Delicious at Young, but other varieties in this area are moderate to light. Despite a good clean crop of Apples and Pears, the financial return to growers was rather disappointing.

The season terminated abruptly on the Northern Tablelands. Granny Smiths generally were showing a cream color, which may be due to the peculiar seasonal conditions. Democrats being held in store are of excellent quality. Pruning of Williams, Packham's and Winter Cole Pear trees had commenced.

Citrus: Little change in prospects was apparent in the Maitland district, where crops for the most part were light to moderate.

Navels were being harvested freely in Hawkesbury River groves; the bulk of the fruit was reasonably well colored, and the sugar content fairly satisfactory. Development of Valencias was good. Emperor Mandarins are nicely colored, and some very good-sized fruit has matured. The bulk of Imperials has been cleared, only small fruit remaining on the trees.

The quality of Navels in the Windsor district was said to be the best for years; the sugar content is very satisfactory, and color was more advanced. Valencias were commencing to color and well-developed fruit was in prospect. Large quantities of Silettas were forwarded to market, and the greater portion of the crop cleared. Parramattas, Joppas, and worked seedlings were coloring, and good size has been attained. It was reported that, following hail injury in April, a prolonged shedding of Mandarins was taking place around Windsor and Pitt Town.

Nevertheless, some good crops were in sight, although hail-markings were very noticeable. Marketing of Grapefruit was in progress.

Dry weather retarded growth of Mandarins and late-maturing varieties of Oranges in the Kurrajong-Penrith area. Many growers were forwarding consignments of Navels to market as they were anxious to avoid the possibility of frost damage which was likely owing to the very dry spell. Valencias were not filling as well as might be expected, the unsuitable weather apparently being responsible for this lack of development. A light to medium intermediate crop was showing in some groves. Common Oranges were patchy; Joppas appeared to be the most uniform, but generally only light yields were anticipated.

The marketing of Imperial Mandarins was completed by the end of June. Medium to good crops of Lemons were in sight, while there was a nice showing of Summer fruit.

Most citrus fruits are stated to have received a check in the Hills district (County Cumberland) owing to the adverse seasonal conditions. Development of Valencias was also retarded in groves in the Parramatta-Camden area; this applies to both the main and intermediate settings. Joppas, Silettas and other Common Oranges sized satisfactorily, but the sugar content was low. On young trees, the fruit was more forward, and some satisfactory-sized lots were being marketed. Lemons were not developing as well as was expected, and premature coloring was apparent.

Bananas: Shipments of Bananas from Tweed Heads were expected to be much lighter as the absence of rain caused fruit to mature earlier than usual, Only medium marketings during June came from Lismore. Dry weather interfered with the filling of fruit and some premature ripening was taking place. Although the position was not acute at the time, the coming crops are likely to be adversely affected unless rain falls at an early date.

Growth was retarded in the Woodburn locality. Nevertheless, moderate quantities were expected to go forward. Good quality fruit was being obtained from first cuttings, but old plantations were producing lower grade packs. Only fair consignments were said to be in sight in the Coff's Harbor district.

Crops at Macksville were reported to be mostly good for this time of the year, and it was likely that medium quantities would go forward. Generally, the fruit was of fair to good quality, although small.

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rvey of Apple Production

N.S.W. Growers' Request

XIETY as to the surplus of inferior Apples on the Sydney local market as a result of the of the best varieties to Great n was expressed at the Central ands district conference of the growers' Federation of New Wales, recently held at Orange, it was decided to request the rities to compile a list of acreof various types of Apples, in ng and coming into bearing, in tates, and to issue a report on osition in regard to marketing ming crops.

e position existing at the present in the Sydney market points to ecessity of the New South Wales grower knowing exactly where tands in regard to the production pples in the Commonwealth.

hether the movers of the resolu- at the Central Tablelands conce had in mind an approximate mate of varieties produced, or a rough survey of the Apple indus- is not known, but it is suggested a knowledge of acreage would ble a thorough understanding of serious position that exists. The ernment of Tasmania appreciated changing conditions of the Apple ustry and, at the end of 1935, ored a survey of the entire industry that State. The following are some the phases that that survey covd:—(1) State production in regard to varieties, districts, acreage, production per acre and sizes of holdings. (2) Actual costs of production, causes of variations in costs, comparison of costs and returns, and costs of marketing, including the selling organisations overseas and in Australia. Other subjects investigated were the preparation of the crop for marketing, advertising, financing the grower, market outlets and the marketing situation and by-products.

From observations made in the Sydney markets it is very evident that much Apple production in this State is unprofitable and the improvements that are yearly occurring in other States make it imperative that the grower of New South Wales should do his utmost to ensure that every case of fruit produced is a known wanted type at some particular time of the year. It is a much repeated truth that unwanted varieties are far too prevalent and, in this connection, it is of interest to note an incident quoted in the Tasmanian Apple survey:—On April 20, 1936, one large Sydney agent received 4,599 cases of Tasmanian Apples, which included 39 varieties, approximately nine of which were wanted types, while the other 30 unwanted types comprised 1,000 cases of the consignment received that day.

It is probable that a position just a little less serious would be revealed in relation to fruit produced in New South Wales, particularly in relation to late districts growing early varieties, which only possess a value during the months of January and February. It is appreciated that for pollinating reasons a certain quantity of uncommercial types must always appear, but the modernising of orchards, so that every case produced will be a payable one, is essential. It is also appreciated that popular fancy for fruit is liable to change and, in view of recent American research, that fancy may change still further as the vitamin content of different varieties becomes appreciated by the public.

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Good pest free growth – clean straight barrels – abundant fibrous roots. APPLES available in all varieties. Full range of other fruit trees.
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RICE GROWING IN AUSTRALIA.

THE success of Rice culture in other countries of the world, with climates and lands, similar to the Murrumbidgee Irrigation Areas of N.S.W., induced farmers to start experimenting in the industry about 14 years ago. Since that time production has increased from 1925, when 2,000 acres yielded 1,500 tons, to the present time, when 20,000 acres yield 40,000 tons, by which the requirements of Australia are wholly supplied, leaving a small exportable surplus.

The Rice-growing quota, home and export market, and price fixing, is controlled by the N.S.W. Marketing Board, and Rice Pool, in co-operation with the Irrigation Commission. Export is only permitted after home trade requirements are filled, and the duty on foreign Rice keeps it out of the Commonwealth. The costs of transport to and from other countries are considerable, thus giving our products natural protection.

Australia being a wheat-growing country, with the most up-to-date machinery at hand for putting in and taking off cereal crops, naturally needs to work the Rice similarly, not like Eastern and Mediterranean countries, by coolie and hand methods.

Unlike some of the old Rice-growing countries, the seed is sown similarly to wheat, but in October, when the soil temperature is high enough to germinate it, and of sufficient moisture, which can be secured by irrigation if needed, when danger of frosts is over—as soon as the crop is up, it is inundated, and as often as necessary afterwards.

Before sowing, rectangular check banks 18 in. high, are quickly thrown up by a "delver," enclosing 10 acres (more or less), according to the levels, thus impounding the water, which is kept on throughout all the growing period, and only drained off a few weeks before harvest time. Rice is a shallow-rooter, therefore shallow cultivation is all that is needed.

Top: Store for Rice at Murrami, N.S.W. This store holds half a million bushels and is 750 feet long by 40 feet high.
Lower: Mr. T. Jolly's Rice header, showing engine which drives the machinery. The haulage is done by Caterpillar tractor.

Barnyard grass is the chief weed pest, but under the dry preparation system can be controlled, also the flooding of the fields afterwards kill it. "Coloro," a Japanese short-grain variety of Rice is the most favored, being an early maturer.

Alternate crops of wheat and rice are favored, wheat every fourth year, Rice ditto, the intervening seasons being grazed, burnt off, stubbled, and fallowed.

The first crop of Rice on land needs no added nitrogen, but subsequent crops are benefited by the application of 2 cwt. sulphate ammonia per acre. Rice production per acre has more than doubled during the past decade.

N.S.W. FRUITGROWERS' FEDERATION.

Report of Annual Conference.

THE annual conference of the N.S.W. Fruitgrowers' Federation was held on June 23 to 25, and was fully attended by delegates. Owing to sickness, the Governor, Lord Wakehurst, was unable to open the conference, but presented a paper, which was gracefully read by Lady Wakehurst.

N.Z. Embargo.—Mr. Heane reported upon the results of the visit of a delegation to New Zealand, during which a partial lifting of the embargo on Oranges was secured. It had further asked for a clear definition of what the term "fly-free areas" meant.

Reorganisation. — Cumberland delegates supported a resolution that the reorganisation proposals be adopted, but Mr. K. H. Todd (Board) moved an amendment that the time was not opportune to proceed with the proposals. The amendment was carried.

Mr. H. V. Smith (Batlow) moved that the pome fruits growers organise as a section of the Federation. This was later withdrawn and a substitution made that conference approves of sectional organisation and that the Board submits proposals for sectional reconstitution of the Federation. This was carried unanimously.

Citrus Bounty.—It was decided that the Federal Government be urged to increase the citrus bounty by ninepence per case in view of the increased costs for exporting, the importance of maintaining the present export trade with Great Britain and the lightness of this year's crops.

Economies. — It was decided that economies be effected from the beginning of next financial year and include a reduction of members of the Board, reduction of sub-district representatives and district delegates.

Citrus Inspection.—A motion that the regulations be eased to allow the marketing of fruit with a small percentage of red scale was defeated. Mr. C. G. Savage, Director of Fruit Culture, said that he hoped to have four more inspectors appointed for the Summer months to control fruit fly and codlin moth. One of these officers would be released for the Inverell district, also an additional inspector would be stationed at Orange. He also advised that legislation will be sought to fix standards for the sale of nursery stocks.

New Markets. — Mr. Williams, Superintendent of the Municipal Markets, Sydney, advised that it was expected that the building of new markets would be completed early in 1938.

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Green Manuring . .

HOW THE SOIL BENEFITS

GREEN MANURING—the turning under the soil of a crop specially grown for the purpose — benefits the soil in two ways. It enriches the soil, in the first place, by supplying it with a considerable amount of readily-available plant-food, and in the second place, by adding humus, and thus improving the soil texture and its power of absorbing and retaining moisture, says N.S.W. Agricultural Notes.

When a manure crop is buried, the surface soil becomes enriched by the nourishing materials which the crop during the period of its growth had drawn from the air and from the lower portions of the subsoil, and this material is now placed within the reach of the succeeding crop.

During the growth of the plant the soil has, in addition, been stirred up and disintegrated by the development of the roots. When ploughed under, provided sufficient moisture and warmth are present, the buried mass decomposes with more or less rapidity.

A further important result is the formation of carbonic acid by the decomposition of the buried crop. Carbonic acid is given off abundantly in the fermentation of the mass, and assists in the disintegration of the soil and in rendering available the plant-food contained in it.

For All Soils.

Green manuring is effective both in sandy and on heavy clay soils, and indeed on all soils deficient in humus. On sandy soils the effect of green manuring is to consolidate the soil, the humus formed binding the particles together. On clay soils, the effect of the addition of humus and the production of carbonic acid is to loosen and aerate the particles. When conditions as to warmth and moisture are favorable, and the crop decomposes fairly rapidly, the production of soluble plant-food proceeds with considerable rapidity.

This is especially the case in respect of nitrogen, which is the principal manurial ingredient. Nutrification (that is, the conversion of the nitrogenous material of the plant into soluble nitrates) takes place quite rapidly. In sandy soils, green manure nitrifies more rapidly than manures like dried blood, bonedust, etc., and only less slowly than ammonium sulphate; while in stiff clay soil the green crop nitrifies very much more rapidly than either sulphate of amomnia or animal manures.

With regard to the kind of crop to be used for the purpose of green manuring, a good deal of latitude is permissible. Any crop that is rapid and luxuriant in growth, and that can be readily turned under, is suitable for the purpose, and the selection will be guided by considerations such as the time of year at which it is to be grown, its suitability to soil and district, etc. Among the most effective crops for the purpose are leguminous plants, such as clover, velvet beans, and peas, since these are specially valuable on account of their power of obtaining their nitrogen from the air. They are, therefore, specially suitable for soils poor in nitrogen, and are of high value in enriching the soil with this ingredient.

★ITS ANALYSIS—2 : 2 : 1 Mixture contains :

8¼% NITROGEN (as Sulphate of Ammonia).
8¾% PHOSPHORIC ACID.
10% POTASH.

GIVES BALANCE—Because 2 : 2 : 1 Mixture is so well balanced it gives greatest profit in terms of **highest yield** of **best quality** fruit.

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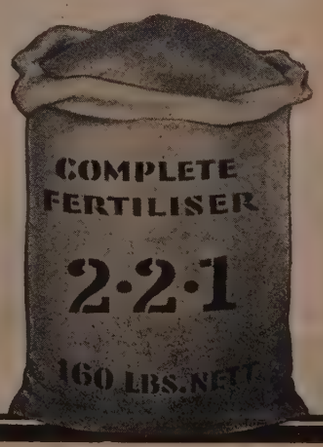

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GUIDE CLIP FOR BUDDIN

German Experiments.

IN REPORTING a comparison the old stub method of bud with a new method in whi patented guide clip is used, and stub eliminated, the Imperial Bu Abstracts of December last that in Germany, where the normal practice is to leave a stu which the new shoot which proc from the bud is bound, experim have been made with a patent s clip which is fastened round the s at the time of budding, and form shield behind the bud which acts a guide to the new shoot. The s is removed and it is claimed that b ter unions result and better callus over the wound made by the remo of the stub, which in this case ta place in Spring. It also obviates s chance of injury to the new grow due to careless removal of the st in Autumn. It is pointed out that t operation with the clip is very sim and much shorter than that involv in tying with bast, which operati is, of course, eliminated.

Further labor involved in exami ation of ties, and their loosenin tightening and removal, is also elim inated, only one further operation b ing necessary after the initial on namely, removal of the clips when th shoot can finally stand on its own. De tails of comparative trials in thre different nurseries of the two method with Apples, Pears and Plums sho that considerable success was obtain ed by using the clip, especially in th case of Apples and Pears. Unfor tunately, conditions of comparison were not very uniform and results ob tained are conflicting. It is obviou that the method is no more fool-proo than the old one. It would appea to offer the chance of greater success if care is taken. Whether the ad vantages gained outweigh the addi tional expenditure on the clips, which is apparently greater than that of the labor involved when using raffia and a stub, remains to be proved.

EFFECTIVE BIRD SCARERS

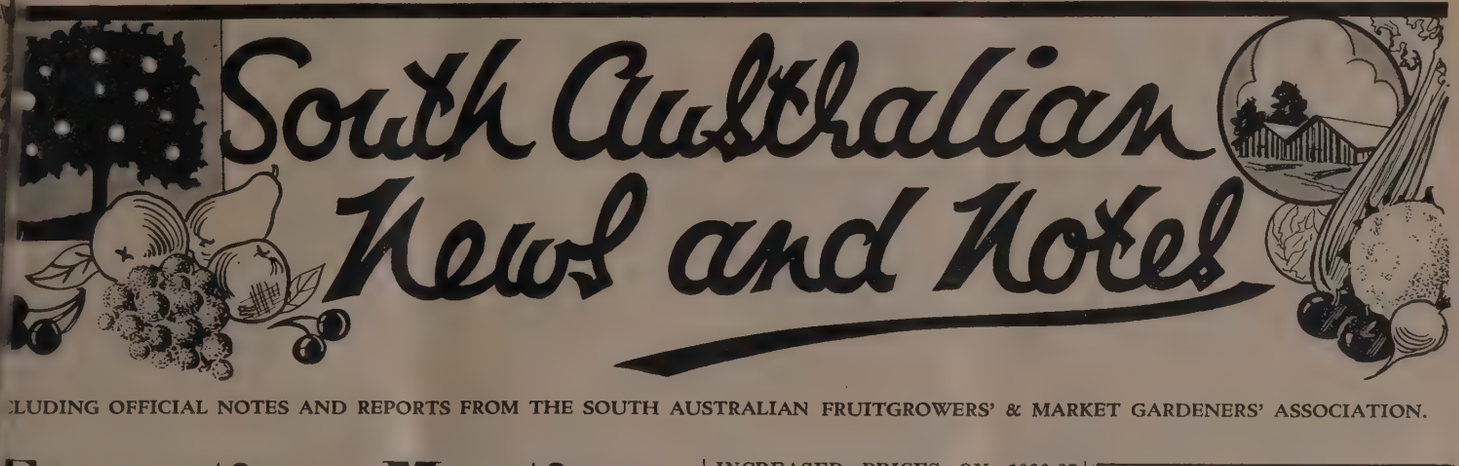
Worn out electric globes, placed suitably in trees, or on props, attached with a piece of string, and so fixed that they swing freely, will help to keep birds away from fruit or plants, the sun shining on these causes a flash which frightens the birds, writes E.L., one of our readers.

A small mirror suspended from a swivel, which turns with the slightest breeze, also does the trick splendidly, or a dead crow, hawk, fowl of any large bird, when dried with wings stretched out, fixed on a kite-like frame, will, if hung from a swivel, with sufficient string to permit of movement, also answer the purpose, if **properly** suspended from a pole, placed above the tree or plant.

There are many mechanical devices made for this purpose, such as windmills, ginger Micks, guns, rotary rattlers, etc., but the above are inexpensive, and will suit the small holder.

VENTILATING FRUIT IN TRANSIT.

A new system of packing fruit and vegetables in ventilated boxes is reported from Chicago. The system provides for a triangular cardboard "flue" in the centre of the case, open at top and bottom and with perforated sides for ventilation. It is claimed that the tubes prevent heating in transit and a trial shipment landed in fresh condition. The system is adaptable for both fruit and vegetables. The inventor is R. T. Barber, of Tampa, Florida.



CLUDING OFFICIAL NOTES AND REPORTS FROM THE SOUTH AUSTRALIAN FRUITGROWERS' & MARKET GARDENERS' ASSOCIATION.

Executive Meeting

HE monthly executive meeting of the S.A. Fruitgrowers' and Market Gardeners' Association held on Friday, June 25, 1937. President, Mr. N. T. Hobbs, occu- the chair, and the following bers were present: — Messrs. C. agless, H. B. Hobson, G. Schultz, H. Schultz, W. H. Ind, J. B. Ran- F. Gill, G. Jennings, A. Hollis- R. Hunter, H. N. Wicks, L. J. ks, E. Giles, W. J. Bishop, F. ghes, C. Ridley, F. Staniford, G. G. Parsons, G. Strange, J. Tur- . C. J. Pitt.

pologies were received from ssrs. C. W. Giles, R. Cramond, A. son and H. Walker.

Minutes were taken as read and firmed.

The Chairman informed members t the Secretary, Mr. W. J. Kimber, been ordered to hospital, but it s hoped that he would soon have very speedy and comfortable re- very, and be seen among members ain.

A letter was received from the uit Industry Sugar Concession Com- ittee, setting out prices to be paid processors for the 1936-37 pack. n increase of 15/- per ton in the rice previously fixed for Peaches as noticed. (Extract from this tter appears elsewhere in this issue.)

The quantities of fruit being held the various State cool stores was ead to members.

Letter received from the Common- vealth of Australia re the Interna- ional Fruit Show, to take place in Birmingham during October.

Mr. J. B. Randell reported on action hat had been taken in connection with iscussion at a recent executive meet- ng on the removal of fruit by in- spectors prior to export, when mem- bers stated that when fruit was taken out for closer inspection, wood wool or some other suitable substance should be placed in the cavity. Mr. Randell stated that this matter had been discussed at the last meeting of the S.A. Fruit Marketing Association, but it was discovered that this prac- tise was not general.

The Chairman reported that consideration was being given to commence an Apple Advertising Campaign. Mr. Randell stated that a sum of money had been allocated by the Government for such a campaign, but owing to the inadequacy of the sum, it was evident that very little could be done in establishing a campaign that would have effective results. It was decided that the Government be approached for a larger grant to be devoted for advertising to increase the consumption of Apples.

The Chairman welcomed Mr. A. G. Strickland to the meeting, who was present to address members and explain matters connected with the proposed fruit tree census. He stated that such a census was necessary to gauge the approximate number of trees of any one variety of fruit being grown. South Australia at present could give absolutely no indication whatsoever, on the number of varieties being grown, and it was most necessary that these statistics should be known. He invited questions and discussion on this matter.

Mr. W. J. Bishop strongly supported this move, and stated that if adopted, steps should be taken to have this census taken regularly. Mr. J. B. Randell also supported the proposal, and said that it was just as essential to the interests of the growers as it was to the industry.

Mr. H. H. Schultz moved "that this meeting is in favour of a census of tree fruits being taken." Seconded Mr. G. H. Schultz and carried.

Mr. Strickland named fruit trees concerned in such a census, and thanked the Association for the support given to the proposal.

The Chairman reported on the acute shortage of timber now being experienced in this State. Crate makers had enlisted the aid of the Celery Section to assist them to obtain their supplies for Celery crates. It had now become necessary for growers to make individual application for release of timber for the manufacture of their crates.

Mr. G. Strange, Chairman of Celery Section, reported on Celery activities. The market had within the last month commenced to show improvement in prices, and at present markets were improving and prices being returned fairly satisfactorily.

Mr. F. G. Gill, Chairman of the Tomato Section, reported that many growers had planted early this season. Leaf Mould had again made its appearance.

The Chairman reported that citrus export had commenced.

Items were invited from members for the agenda of the annual meeting in September. Mr. W. J. Bishop suggested that the annual meeting be conducted on the same lines as general conference last year.

Financial statement read and accounts passed for payment.

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INCREASED PRICES ON 1936-37 PEACH PACK.

The attention of Peach growers is drawn to the increase of 15/- per ton on Clingstone Peaches sold to factories during 1936-37 fruit processing season.

A communication from the Fruit Industry Sugar Concession Committee (22/6/37), states:—" . . . in accordance with clause (f) of Section 7 of the Sugar Agreement, 1935, now declares the following to be reasonable prices to be paid for fresh fruits for canning:—

Variety.	Minimum Price. Per Ton.
Clingstone Peaches, clear centred varieties	£10 15 0
Clingstone Peaches, other .	9 15 0
Freestone Peaches	7 0 0
Pears	8 0 0
Pears, Keiffers	6 0 0

" . . . Your attention is invited to advances of 15/- per ton, which have now been made in prices of Clingstone Peaches for canning. These increases have been decided upon by my committee after consideration on canners' realisations on canned Peaches (to be) exported to the United Kingdom, in relation to the minimum prices for canning Peaches as incorporated in my Circular Letter No. 4/36 of December 16 last.

"The payment by this Committee of claims for domestic sugar rebate in respect to all manufactured fruit products is conditional on claimants for same having complied with the foregoing minimum prices."

MELBOURNE MARKET REPORT FOR JUNE.

THE Celery market improved considerably during this month, and there has been a hardening in selling rates. Price levels were very low during May, when inferior quality lots, were extremely difficult to clear. This state of affairs was brought about because of exceptionally heavy deliveries of local Celery and rather unfavorable weather conditions. Another factor which affected Celery prices was the plentiful supplies of Cabbage and Cauliflowers.

The market is now clearing Celery supplies very satisfactorily, and there is an absence of carry-overs from one market to another. Prospects for the remainder of the season appear to be good, although much will depend upon the supplies of competitive vegetables. At present, the supplies of all vegetables are adequate for requirements, with the exception of bunch lines, some of which are short supplied.

The Association has had enquiries from Melbourne for large supplies of **Carrots.**

Peas.—Until recently Barmera Peas were going forward regularly to Melbourne, but heavy frosts in growing areas has affected the supplies and the quality. Bean requirements are now being supplied by Northern New South Wales and Queensland, and Peas have also commenced in those sources.

Poorman Oranges.—Mr. McRostie (Melbourne Representative) has effected a sale of a big parcel of Poorman Oranges to Melbourne buyers at a satisfactory price.

Railway Advertising in Victoria.—The Celery Section Committee continues to pursue a vigorous advertis-

It is with regret we announce that our Secretary, Mr. W. J. Kimber, has been ordered to hospital. We feel sure all members will join with the office staff in wishing him a very speedy and comfortable recovery, and trust that he may soon be in his usual place among us.

During Mr. Kimber's absence, his office duties are in the hands of Mr. Ron Beck, Assistant Secretary, and Mr. R. G. Bartram.

NOTICES.
EXECUTIVE MEETING.

The monthly meeting will be held on Friday, July 30, 1937, at 10.30 a.m.

Business.

1. Further consideration of an advertising campaign to increase the consumption of Apples.
2. Suggestions received from members re the annual meeting and conference in September.
3. Reports will be received from Chairmen of various sections.

N. T. HOBBS, President. W. J. KIMBER, Secretary.

MARION BRANCH.

The monthly meeting will be held on Wednesday, July 7, 1937, at 7.45 p.m., at the Sturt Hall.

Reports will be given.

The Executive report will be received, and other business attended to.

Members of the Marion Branch are reminded of the annual meeting to be held at Sturt Hall on Wednesday, August 4, at 7.45 p.m. A large attendance at this meeting is desired.

I. R. ADAMS, President. J. R. DUNCAN, Hon. Sec.

MEMBERS PLEASE NOTE!

Members who have not yet paid subscription for year ending August 31, 1937, are asked to send it to Secretary, or pay either Messrs. Collet or Beck at the Market.

W. J. KIMBER, Secretary.

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ing policy. A very attractive poster is being displayed on sixty suburban railway stations in Melbourne and a quarter of a million recipe booklets are in course of distribution.

The "Duntroon" Brisbane Shipment.—Following the losses sustained by growers who were involved in the "Duntroon" shipment, the Celery Section entered into negotiations with the shipping company concerned. The result of the negotiations is growers will receive one half of claim submitted, although the sh ping company does ont admit bility.

Celery Crates.—In an effort to a viate the case position, the Cel Section Committee has made arran ments whereby growers will be to utilise crates returned from M bourne. Further information be obtained from Mr. Bartram.

THE CARE OF YOUNG FRUIT TREES.

From Nursery to Second Pruning.

IN A PAPER read by Mr. H. Whillas at a meeting of South Australian growers recently and reported in the S.A. Journal of Agriculture the author gave some valuable hints upon what to do with young trees when received from the nursery.

Packages should be removed, and trees trenched or heeled in damp ground—not wet—about 10 trees to a trench, 3 ft. x 1 ft. Wind and frost must not get to the roots. The best distance to plant trees is 20 ft. apart on the straight and square methods. They can then be worked from four different angles with horses, leaving very little to be done by hand.

Preparing the Holes.

The holes should not be dug until the planter is ready to plant the trees, as holes left open in wet weather become full of water, thus making them unfit for planting. The size of the hole should be about 3 ft. square and 8 in. to 1 ft. deep. Bonedust and superphosphate can be mixed with soil—1 lb. or 2 lbs. bonedust, less if super is used.

Trimming Roots.

Before planting the roots of the young tree must be trimmed, and all broken small dead fibrous roots removed. If a tree is planted without pruning the shrivelled roots, on being dug up in 12 month's time and examined, scarcely any new extensions will be found to have issued from the smaller ones; just in the same manner as when the top of a young tree is left unpruned many of the partly-matured terminal twigs will die, and fresh ones emerge from the more solid wood below.

Planting and Watering if Soil is Not Damp Enough.

Throw a few spadefuls of good top soil mixed with bonedust and sup phosphate into the hole, making soil form a little hill in the cent Now place tree on the hill, spread roots around evenly as possib Throw in soil, spreading it ever around the roots until the hole nearly full. Then take the tree the main stem with one hand, gen pulling up, while pressing down w feet. Fill hole up to a little mo than ground level. Stake and wa if not damp enough.

Pruning.

First Pruning. — If the firs branches are more than 18in. to 20in from the ground prune back to thre good buds evenly distributed. If ther are plenty of branches cut the centr ones out, leaving three or four of th best-spaced ones with two of the en buds facing sideways to form th secondary arms next season.

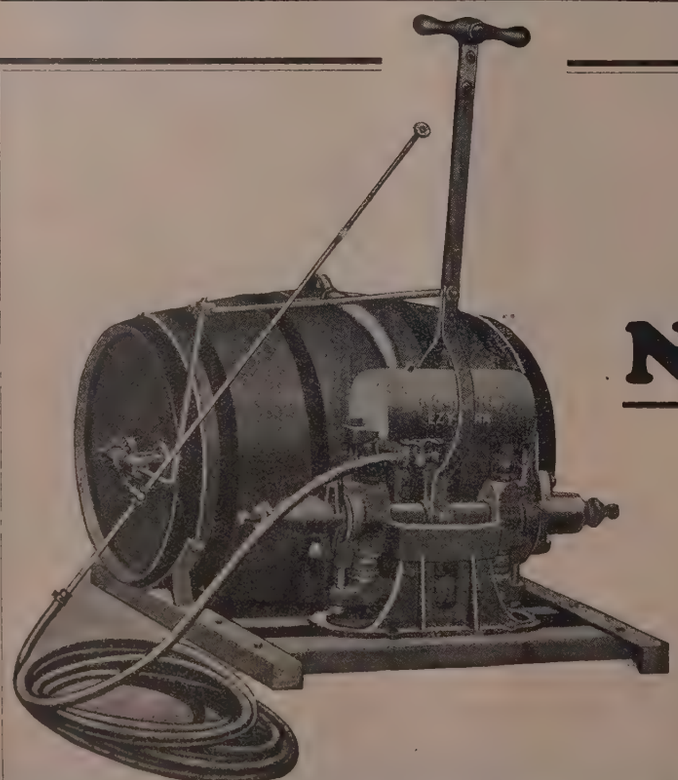
Second Pruning.—The tree that wa left with three arms after the firs pruning can be left with six arm which form the secondary arms Prune to buds facing outwards.

The Uses of Pruning.

Pruning increases the length of life of the tree by adding to the vigo of root and leaf action. It render the tree less liable to disease and at tacks of insect pests. It conform the tree to a shape and size that is more convenient to cultivate around spray, prune, and pick fruit from. It increases the size, color, and quality of the fruit, thus making it far more valuable. In addition it causes the tree to bear regular crops of fruit instead of bearing alternate seasons.

Care Through Spring and Summer.

Young trees should be well worked and cultivated, and watered about once a month if there is not sufficient rain. All superfluous shoots which may rise from the centre or main stem of the tree should be thinned out.



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Spraying Oils

Summary of Lecture Given Before the South Australian Fruitgrowers' and Market Gardeners' Association.

introducing the subject of Spraying Oils," we must first eal with the reasons why spray- ls have become a necessity. In all s of plant and animal life, there struggle for existence, which in time to produce a natural ce. However, by cultivation of mic crops, man has tended to this balance, and in addition provided suitable conditions for extensive development of fungi insect pests.

combat the spread of these pests, to make the cultivation profitable, loyment of other agents is a ssity, and it is in this respect that eticides, such as spraying oils, an important part. Control sures adopted by orchardists can classified into groups. First are fungicides, such as Bordeaux Mix- , lime sulphur and chemical dusts, the second insecticides. Insecti- s themselves are further classi- according to their action on the ct. Of these, the stomach poisons, h as lead arsenate, are well known. addition, we have what is known contact insecticides, which depend their action on the suffocating of insect and the destruction of gs. In this group are spraying oils, otine sulphate, etc.

The history of control of pests by e use of pertoleum sprays dates ck to the nineteenth century, and out 1850 there is record of kerosene ing painted on to dormant trees in undiluted form. Later, a more tisfactory method of applying kero- ne was found, by producing what is own as an emulsion. Now an emul- on consists of the formation of very nall globules of the oil in water. The rst method employed for emulsify- g kerosene was by forcing it with hand pump through water. This ave a very unstable emulsion, with ne result that the kerosene rapidly eparated from the water. Later it vas found that an emulsion could be ormed by the use of soap in solution, oap facilitating the formation of the il globules in water.

However, kerosene in both these ases caused considerable damage to rees, mainly because of the variable nature of the kerosene used. In addi- tion, its insecticidal property was not very great, because kerosene is com- paratively volatile, and does not re- main on the insects for any length of time. Because of this unsatisfactory control, experiments were conducted, using heavier oils of the lubricating type, and these were found to give much better control, but, of course, they were for strictly dormant use. It was as recent as 1924 that the first oil spray was produced, which could be applied by all to foliage with perfect safety.

Oil sprays are of two distinct types. First, miscible oils. These oils have the appearance of a lubricating oil, but actually contain emulsifying agents, so that when agitated with water, an emulsion is readily formed. This type is usually applied as a dormant spray and has the advantage of the use of a cheaper oil, which has not been subjected to the costly re- fining process essential to the produc- tion of a foliage spray. Dormant sprays have very wide application for this reason, and also for the fact that in dormant trees the absence of foliage is conducive to more thorough coverage by the oil.

The second type is what is known as paste or mayonnaise type. This is really an oil which has already been emulsified in water, but is in a more concentrated form, and, on further breaking down with water, is in a satisfactory form for spraying. This type is usually used for Summer spraying. Because more expensive oil is used, it was essential that means be found for applying this oil economically, and therefore, manufac- turers produced a quick breaking emulsion for this purpose. Quick breaking emulsions are relatively stable in their concentrated form, but when sprayed on the tree, the oil rapidly separates from the water, with the result that there is only a very small proportion of oil lost in the run-off.

The reason for the distinction be- tween dormant spraying oils and Sum- mer sprayings oils is that the former type will cause damage to foliage because of constituents in the oil itself. However, these constituents are re- moved by the refining processes, with the result that, when incorporated in Summer spraying oils, no damage results.

The main reason for the develop- ment of Summer spraying oils was the rapid extension of citrus red scale in California. As it was not practicable for expensive fumigation to be continually used, research was directed to the production of a satis- factory substitute, and from 1924 on- wards Summer or white spraying oils came into extensive use. Further, codlin moth has spread so rapidly, despite the continued use of lead arsenate, that other control measures have become necessary. In parts of America even nine to ten applications of lead arsenate in one season failed adequately to protect the crops. This may be due to several reasons. First is the possibility that codlin moth is becoming tolerant to arsenate, although this has not been established. However, there is no doubt that a greater number of arsenical sprays are required now to control the pest than previously. A further reason is that the larva of the codlin moth, in a great number of cases, rejects the first few mouthfuls taken when biting into the Apple, and, in consequence, little poison is absorbed.

The regulations governing the quantity of arsenic residue on Apples and Pears have become very strict, and the limit of .01 grains per pound of fruit means that where arsenate alone is applied the fruit crop must be subjected to a further treatment. Hand wiping is expensive and does not satisfactorily reduce the amount of arsenic present. The washing of fruit in a hydrochloric acid bath gives excellent results, but even that be- comes expensive and in some places is not always practicable.

Because of these factors, the Vic- torian Department of Agriculture conducted experiments in several localities. Two arsenic sprays, fol- lowed by three white oil sprays, were tested against five arsenic sprays. These tests were conducted for five years, and resulted in control of codlin moth being very satisfactory in both cases, but with the arsenic-oil schedule, the amount of residue left on the fruit was less than the allow- able quantity, whereas with the arsenic schedule alone a subsequent washing of the fruit was necessary to comply with the regulations.

Two essential conditions were ob- served in conducting these tests. The first was that the spraying was very efficient. It was quite obvious that tests would have been of no value if the original arsenic sprays were not thorough, and the second, the timing of the oil sprays, must be such to be applied when eggs are present on the fruit, but before they have hatched. It is useless, of course, spraying with an oil spray when very few moths are present, and it is obvious also that, if the oil spray were applied a week after the maximum infestation of moths, then a greater number of eggs will have hatched and the larva already entered the fruit.

As an aid to the correct spraying time, lures are recommended, which in themselves are efficient in killing a number of moths, which would be potential sources of eggs. A satis- factory lure can be made by using a 10 per cent. vinegar solution. The practice in South Australia has been to apply either arsenic sprays alone, or else to use two straight arsenic sprays followed by cover spravs of combined arsenic and oil. In many cases, however, severe damage to fruit, such as Cleopatras, has resulted. This damage has been attributable to the oil sprays, but it is distinctly possible that the use of hard water in preparing the combined spray is the main cause of the damage. In an arsenic spray, the arsenic is suspended in the water in the form of small particles, but when hard water is used, some of the arsenic goes into solution, and this soluble arsenic causes very severe burning of the foliage. It is, there- fore, quite probable that the damage resulting is really due to the hard water alone.

There are several ways in which hard water can be overcome. The first is by the addition to the spray water of 1 to 2 lbs. of slaked lime for every 100 gallons. This lime should be added to the water before the arsenic itself is added. The lime serves the purpose of taking soluble arsenic out of solution and converting it to the insoluble type, which does not cause damage.

Another method is by the addition of ½:½:40 Bordeaux mixture, which, containing as it does an excess of lime, has a similar effect. In addi- tion to this, Bordeaux mixture is, of course, a fungicide, which is ad- vantageous. A third way of over- coming hard water is by the use of spreaders. Most of the commercial spreaders contain about 50 per cent. of lime and will, therefore, serve a similar purpose as has already been pointed out. However, Summer spraying oils are of the quick break- ing type, and it is desirable for economy that this should be so. Most spreaders, however, can be used as emulsifying agents, and, therefore, their addition to quick breaking sprays tends to further stabilise the emulsion, with the result that a con- siderable amount of oil will be lost in the water run-off. Spreaders, therefore, with Summer oil sprays, are of very doubtful value.

A most essential feature of insect control is efficient spraying. Efficient spraying depends not only on the quantity of spray applied, which in all cases must be sufficient, but upon the thoroughness. All portions of the tree must be hit with the spray, par- ticularly on the under sides of the leaves. This, of course, applies to all types of sprays, not only to oil sprays. Again, the mixture strength must be satisfactory, and, in this regard, the manufacturers' recommendations should be closely followed. And, lastlv, the sprays must be so timed as to effect the maximum kill, which factor is of the utmost importance.

These few points, I trust will be of assistance to growers. The main points to be stressed, however, are that the correct type of spray should be used, and that its application must be very thorough.

In conclusion, I would like to say that the marketers of spraying pro- ducts endeavour at all times to supply, not only more efficient, but cheaper spraying materials. New grades are introduced at various times, not as catch lines, but as an earnest endea- vour to give to the growers assist- ance in the production of their crops, as it is to the primary producers that the whole of Australia looks for its prosperity.—By F. E. King, Shell Co. of Aust. Ltd. (S.A. Branch).

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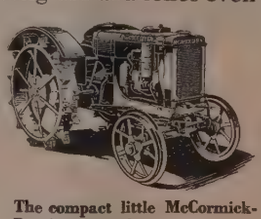

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South Australia

Mid-Murray Notes

Annual Conference Report — Combating Frost, Sixty Burners to the Acre — Insurance Against Weather Damage — Deep Drainage — Vine Culture and Baume Tests — Climatic Influences on Sugar Content — Value of Sunlight and Artificial Rays — The Naval Orange — Non-Arsenical Sprays — Citrus Storage.

Renmark, June 21, 1937.

THE RIVER MURRAY branches of the Agricultural Bureau held their annual conference at Waikerie on Thursday, June 17, which was attended by about a hundred delegates from the various branches. A lengthy agenda was submitted and under the able chairmanship of Mr. L. W. Andrew, proceedings were kept on the move from 10.30 a.m. until 10 p.m. This conference will stand out as the most successful ever held on the River.

Government officials who attended were Mr. A. G. Strickland (Chief Horticulturist), Mr. R. S. Scott (Chief Agricultural Adviser), Messrs. F. Arndt, C. Grasby (Horticultural Instructors), Mr. H. C. Pritchard, General Secretary; Mr. Richards, Assistant Secretary.

On behalf of the Advisory Board of Agriculture, Mr. Bruce Murdoch, who officially declared the proceedings open, pointed out the benefits to be derived from a gathering of delegates eager to exchange opinions and get the benefit of the technical advice from the Government officials, who are experts in their various departments.

Combating Frosts.

The first paper read was that prepared and delivered by Mr. F. R. Francis, entitled "Frost Combating at Waikerie." Mr. Francis dealt with the formation and working of the Frost Committee, and the success achieved by that body. It was found that 60 oil burners per acre were able to raise the temperature sufficiently to save vines from damage during frosts from September 4 to September 27, when eight frosts occurred in that time ranging in severity to as low as 26 degrees. The areas protected by oil burners stood out as vivid green patches against the blackened, frost-bitten areas surrounding it.

Insurance Covers.

A paper given by Mr. F. B. Harden on "Insurance Cover against Climatic Damage" received a good deal of sympathetic consideration, and a motion was carried asking the "Advisory Board of Agriculture" to consider a scheme as suggested by Mr. Harden.

Deep Drainage.

Another paper read by Mr. L. W. Andrew on "Deep Pump and Bore Drainage" indicated the great achievements of Messrs. A. E. Stephens on block 80E of Waikerie. J. S. Knight, J. L. Smith and J. M. Darling, all of whom have been able to drain the surplus soil water from their blocks by means of a bore at depths ranging from 70 to 110 ft.

At this depth a limestone formation is encountered capable of taking almost unlimited quantities of drainage water. As far as I can ascertain, this system of drainage has not been possible in any other irrigation area. As some of these bores have been in operation for 4½ years, the success is now assured.

Mr. C. Till, in a paper on "The Drainage Scheme now Under Construction at Barmera," dealt with the difficulties encountered and the measures being taken to overcome them. The scheme has been financed by the S.A. Government, and the land benefited by the drainage scheme will carry a special drainage rate, payment of which will be spread over a period of years.

Vine Culture.

Dr. W. Erich Meier, of Renmark, read a paper on "Some Aspects of Vine Culture in Relationship to Baumé Tests." This paper created a considerable amount of interest and discussion, because of the newspaper controversy which this subject has created in the last few months, in which such men as Messrs. R. A. Boyle, B.Ag.Sc., De Vahl Davis, B.Ag.Sc., R. W. Voullaire, Jnr., W. B. Muspratt, and W. Wiedenhoffer have taken part. Summarising Dr. Meier's comments, it would appear that no single factor is alone responsible for influencing the Baumé density of our Grapes, but rather a combination of circumstances partly influenced by climatic conditions, manurial practices, moisture content of the soil, drainage, and manure applied, so that it becomes available at the wrong time; in particular this applies to nitrates.

Regarding climate, Dr. Meier said, "As sugar is built up from the carbon dioxide of the atmosphere only in the presence of light, and at a comparatively high temperature, we will obtain our highest yields with uniformly warm to hot and fairly dry weather, while the fruit is forming and ripening. Cool weather during this time on the other hand, will lead to lowered sugar content and a higher degree of acidity."

The soil factor is as follows: — "Very broadly speaking, we have to deal with three groups of soils: (1) those of a sandy nature (2) admixture of sand and clay (3) preponderance of clay. Of these a sand is usually the poorest in regard to nutrients and humus, but usually posseses an excellent physical structure which allows of good aeration and drainage, while clay, comparatively rich in readily available, as well as less readily available nutrients, possesses a very poor mechanical structure, and must be improved by the addition of humus and lime.

Although sands and clays are so fundamentally different, the treatment meted out to them is largely similar. Both sands and clays respond well to liberal applications of organic matter, as well as phosphates and nitrogen, while potash does not appear to be so necessary in clay soils. Lime, again, need not be applied so heavily to most sandy soils, whereas clays must receive comparatively heavy dressings at frequent intervals, both as a soil nutrient and as a corrective. That clays require very much more assiduous working than sands or loams is, of course, common knowledge.

"Regarding irrigation," Dr. Meier said, "from my observations I have no hesitation in saying that growers, believing that they are treating the plant well, apply an excess of several acre inches at each irrigation. Applying this excessive amount of water to the plant, i.e., to its roots, which constitutes its "mouth" as it were, is roughly equivalent to taking an animal and pushing its head under water for some time in the hope that it will drink sufficient water in that way.

"Both plant and animal can withstand such conditions for a limited time, but must always be weakened

. Finally, their Baumé is to its maximum by vigorous g of the block, careful and d pruning, rapid and lighter ions at more frequent intervals, rainage and shading of the soil, comprehensive and carefully d manurial practice, with an matter, lime and phosphate sis."

e Aspects of Fruit Growing.

Colin H. Nicol contributed a "Interesting Aspects of Fruit g." By means of an illustra- n a blackboard, the speaker how ordinary sunlight is split various forms of rays, such as ultra violet rays, hertzian ray, ll of which contribute towards cing the color of our bright as and Lexias. He visualised mployment of artificial ultra rays in dehydrators as a com- l proposition. He also touched ainage matters as it occurs to ooker on," and as he sees most game. This paper proved ex- ly interesting.

Soil Treatment.

L. A. Chapple read a paper on Treatment and its effect on Growing."

C. Grasby (District Horticul- Instructor) gave a paper on uring." (Mr. Grasby, by the is a nephew of the late W. C. y, who introduced this practice stralia after a tour to Greece.)

Navel Oranges.

ny questions were on the agenda g which were "What are the true cteristics of the fruit of the ington Navel Orange?" Mr. F. (Horticultural Instructor) ex- d many specimens of Oranges strate the question, and said that may differ from one another in district, according to climate, rial practice, etc., but in the the fruit should be almost ical, somewhat longer than wide, navel, deep orange color, with and acid well blended.

metimes," said Mr. Arndt, "an ype' fruit will some out on a limb, and if buds are taken from limb they will produce 'off-type' When selecting buds for pro- tion purposes, the tree should be ully observed during its grow- period, and the record for con- t bearing should be noted. If are taken at random in the g without these observations is a danger of propagating 'off- trees."

Training Sultanas.

hat is the best method of train- Sultana vines for the prevention mould?" was another question. Grasby favored the T-head trellis 1 ft. to 15 inches wide for the oses of lifting the Summer ge, and allowing free access of hrough the vines.

Has the non-arsenical spray for in moth proved effective?" came for discussion, and Mr. A. G. kland (Chief Horticulturist) re- d that trials had been carried at Berri during the last year, the lts were roughly as follows:— -arsenical sprays showed from to 2.55 infection, while the nical sprays showed 0.18 to 0.47, as the unsprayed trees showed an infection of 13.67 infection, ing of a conclusive nature could rrived at from the figures of last r. The second brood of moths e not in evidence until after the J.C. Pears were picked, which ac- nted for the low percentage of cted fruit. The trials would be ied on, however.

Cover Crops.

Can the growing of cover crops be rdone?" came up for discussion. A. G. Strickland replied that he doubted whether it could be over- done. If, however, a crop becomes sick from repeated planting, then a switch over to another variety of crop should be tried. If growing a cover crop is accompanied by applying more water to the land than is necessary, and a rising water table is thereby aggravated, it is a doubtful practice, but in 999 out of 1,000 cases the growing of an annual cover crop could not be overdone.

Citrus Storage Sprays.

In the evening session, Mr. Strick- land dealt exhaustively with the citrus storage trials carried out during the last season, which was made pos- sible by a grant from the Common- wealth Government. A complete co- ordination between all States over the past two years had proved entirely satisfactory, and as control measures were the primary objectives of this work, considerable steps had already been made towards lessening the trouble. After having covered the ground of citrus storage, the speaker dealt with South Australian experi- ments with zinc sprays for the treat- ment of mottle leaf in citrus, which had proved so effective. Mr. Strick- land referred growers to the February issue of the "S.A. Journal of Agri- culture" for full details of the trials.

Trees treated with zinc oxide showed definite results in 3 months, and in 6 months the result was found to be remarkable. Three lb. of zinc oxide per 100 gallons of water, with casein or skim milk as a spreader was used, and as zinc oxide could be obtained for about 6d. per lb., the cost of such a spray was extremely small. Questioned whether this spray could be combined with a white oil spray, Mr. Strickland replied that casual observations indicate that this combination gave outstanding results. Furthermore, the manufacturers of white oil have given their assurance that this combination will have no detrimental effect on either the zinc or the oil.

In the course of this discussion one grower also reported beneficial effects from combining zinc oxide with oil, which naturally reduces the working cost of the orchard.

At the conclusion of the confer- ence, Mr. O. Weste moved, and Mr. Ingerson seconded, a vote of thanks to those who contributed papers and to the Government officials, the Presi- dent and Secretary of the branch, for the success of the conference, which in their opinion was the most fruitful ever held on the River.

Local Consumption.

There seems no doubt at all in my own mind that, given facilities for ob- taining Apples at a reasonable price, the Australian public would consume this fruit in much larger quantities than at present. In my own house- hold we are very fond of Apples, but have to pay our greengrocer 4d. per lb., and consequently purchases are confined to a few pounds per week, instead of half a case.

I feel sure that with a proper or- ganisation of distribution the average household would consume at least a case a fortnight. Just by way of a suggestion, I believe that the Apple growers, if organised, could utilise the co-operative companies as a channel of distribution.

It seems ridiculous to export fruit at a loss, or flood the city markets and neglect the country people.—"Nemo."

AN ORPHAN.

Bill (viciously attacking a piece of chicken): "This chicken must be an incubator chicken."

Joe: "Why?"

Bill: "No chicken with a mother could be so tough."

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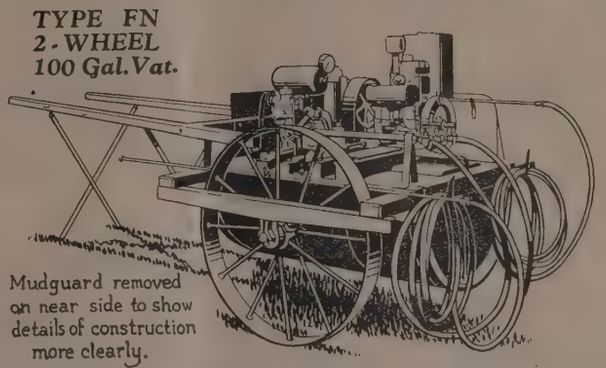

Mudguard removed on near side to show details of construction more clearly.

RONALDSON-TIPPETT Spraying Plants embody features of design and construction never before seen in any spraying plant. Before building this machine we consulted orchardists in all parts of Australia . . . the result is a sprayer that growers have long waited for! It is quality-built from start to finish. The engine is a high-grade Ronaldson-Tippett roller-bearing engine, and the pump, a high-pressure, double-plunger spray pump, with stain- less steel cylinders. Both engine and pump are totally enclosed and automatically oiled. All parts are quickly accessible. Drive is special quality roller-chain and the agitator, a rotary propeller type, belt driven. Belt is protected by a sheet-steel guard and has proved its superiority over all others. Vat is 100-gallon capacity.

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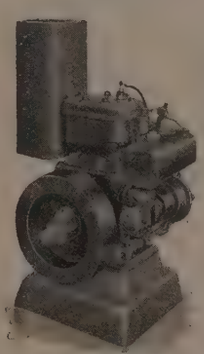

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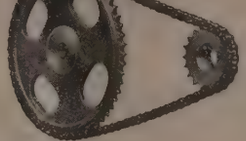

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RONALDSON - TIPPETT

Tasmanian News and Notes

Exports of Apples and Pears this Season, 2,827,696 Cases — Problem of the Disposal of Surplus Fruit — Development of By-Products Necessary — "Crown" Pack Popular — Community Packing Sheds — Orchard Hygiene — Pruning and Re-working.

A SUMMARY OF INFORMATION received by the Tasmanian Chief Horticulturist from the District Orchard Inspectors, together with other matters relevant to the culture of fruit, follows:—

Weather.

The conditions experienced throughout the month were very variable in Southern districts, bright typical Autumn weather with frosty nights alternating with prolonged wet periods. In the north and east the precipitation was not so heavy, though urgently required, and recent rains were very welcome. Rainfall records taken from representative centres and supplied by the Meteorological Bureau are as follow: Hobart 297 points, compared with 76 points last May, and an average of 183. Franklin 578 points, compared with the average of 260, and Launceston 303 points, compared with the average of 269.

Crops and Export.

The general conditions this month present something of a contrast to the same period last year, when most of the fruit had already been cleared from the trees, cover crops had scarcely made any growth, and pruning had already commenced. The reasons for the delay in harvesting this season are many, not only is the crop heavier, but the quantity of cases available for immediate supply is insufficient. Then again, growers have been hoping for further space allotments to clear their Sturmers before selecting varieties for cool storing. In the absence of this the bulk of the Sturmer crop has been left on the trees almost untouched. **Democrats, Granny Smith, Delicious** and **Crofton** for interstate trade have, of course, commanded the cool storage space available, and in some instances Pears and other Apple varieties have been taken out to make room for them. With the cold storage space so restricted, and several stores completely filled, growers should make perfectly sure that their space only contains the very highest quality fruit.

For the mainland markets in their present state, only the very best will be saleable at profitable prices, as may be seen from the Fruitgrowers' Representative's reports. Competition encountered there from high quality local produce is likely to be very keen indeed, throughout the year.

The scheduled overseas shipments terminated for the year with the sailing of the "Moreton Bay," and the total exports to England, Europe and India are placed at 2,673,926 cases of Apples and 153,770 cases of Pears, or a total of 2,827,696. One more vessel for England and four for India have still to load, but the consignments will be comparatively small.

Surplus Fruit.

Perhaps the most serious problem which growers are faced with this year is the disposal of the large surpluses of Apples present in almost all orchard areas. Factories have taken large quantities for canning as "pie Apples," and it is of interest to note that the bulk of the fruit utilised in this way was of good quality exportable lines which would in other seasons have gone overseas.

This process has relieved the grower of many thousands of bushels, but whilst most of it will be marketed in the outback regions, a proportion will undoubtedly come into actual competition with fresh cooking varieties. The same will, of course, apply, only in a lesser degree, to dried Apples. A number of individual growers are experimenting with cider making. This is, however, a trade which only long practise and individual study of the different varieties and methods of blending can perfect, though the general process is simple enough.

Sterilised and bottled fresh or sweetened Apple juice is another way in which fruit may be utilised, the resultant extract being consumed as a drink or for flavoring purposes.

Apple vinegar is much used in other countries, and several growers have adopted the process with reasonably good results here.

As a part of the Winter ration for stock the feeding of cooked or new Apples in combination with other foods has yielded very good results, provided the proportions are properly regulated.

Recently, six proved varieties of **cider Apples** for blending purposes were obtained from the Cider Research Laboratories at Long Ashton in England, and it is hoped to distribute some scion wood next Spring.

With regard to the surplus fruit (more especially Sturmers) still hanging on the trees, these, if left unharvested, will probably lead to a considerable late spot carry over, and will certainly harbor large numbers of the Light Brown Apple Moth ("green grub") larvae during the Winter months. A clear up is strongly recommended prior to the Winter ploughing, when all fruit should be removed and turned under. It is perhaps superfluous to add that the Winter ploughing should be deep, and that any Spring or later cultivation must be of a shallower nature.

Packing.

A study of the contraventions for slack and indifferent packing shows that these progressively decreased as the season advanced, and reports indicate that rapid advances in the adoption of "crown pack" principles have been made throughout. Other States are also interested in this pack, and have sent officers over to study the methods in process of adoption here, and in addition a number of packed cases of Jonathan, Granny Smith, Crofton and Democrat have in several instances been sent over on special request.

Community Packing Sheds.

Another pleasing feature is the interest apparent in regard to community packing sheds; in a number of instances existing concerns have doubled their outturn of packed cases this year. An example of this might be quoted from the Cygnet area, where two sheds have together topped the 100,000 mark.

School and adult packing classes are now in full swing in fifty centres, and provided adequate supplies of practice fruit are available, very rapid strides may be expected between now and Show time. It is, of cour rather early to forecast accurate the possible number of competito from the schools, but 250 would be fairly conservative estimate.

Pests and Diseases.

As already suggested, orcha fruit must be thoroughly cleared as a preliminary to the control **black spot** and the **Light Brown Ap Moth.**

Mildew is prevalent in several d tricts, and the sooner susceptible var ties are pruned the more satisfacto will be the initial control. At t present time diseased shoots are mo easily seen, and by their removal a immediate destruction late dissemi ation of spores will be prevented. R spider appears to increase mo rapidly from January onwards, a it is probable that an oil spray will do considerable good during t late dormant season.

Codlin Moth, though scarce duri the early part of last season, w sufficiently numerous at a later da to warrant precautionary Wint measures. These will consist in ba scraping and the destruction of h den larvae before spraying, and general Spring clearing of the pac ing sheds and environs. Canary- is reported from all districts, and w particularly troublesome where spra ing had been thought unnecessa Very satisfactory controls were, ho ever, obtained elsewhere.

Stone Fruits.

Early pruning of Plums and Ap cots is recommended, and where lar dead branches require to be remove the operator should head back in healthy wood if possible, and treat t exposed surface with the cyanid bichloride of mercury mixture. D tails of this may be obtained on a plication to the Department of Ag culture. Peaches are late in sheddi their leaves, and should be given a other few weeks before pruning.

Very little brown rot was prese last season, but the vigilance of t grower must not be relaxed. Remo therefore all dead spurs and mumm fied fruits, and burn.

Reworking.

Although it may seem a long ti before this operation commences, t necessity for obtaining scions or, all events, locating suitable materi is obvious, more especially whe Pears are concerned. It is likely th this fruit will receive considerable a tention in regard to reworking, o ing to the recent restrictions on e port varieties. Comice, Winter Nel Winter Cole, Josephine, and Beur Bosc are all in demand, but whil a few trees of such a variety as Comi may be tried, it is advisable for t grower to concentrate mainly on the which are known to do well in h particular district.

Berry Fruits.

It is hoped to deal more fully wi the pruning of berry fruits and cu tural details in the next monthly note In regard to strawberries, howeve planting in most areas, if not alrea done, should be left until August, f little root development will be ma now onwards, and plants will eith just stand still and become weec or be lifted and killed by grou frosts. Sheltered warmer areas a those adjacent to the sea, can course be planted fairly successfu throughout the winter. Time will n be lost, however, if the new areas a well worked up, cleaned, and prepare

Neglected Orchards.

Owing to the pressure of the expo season, and the fact that most of t Inspectors' time had to be devoted packing instruction, actual orchard i spections were somewhat curtaile Twelve prosecutions, however, we necessary under the Plant Diseas Act during the month.

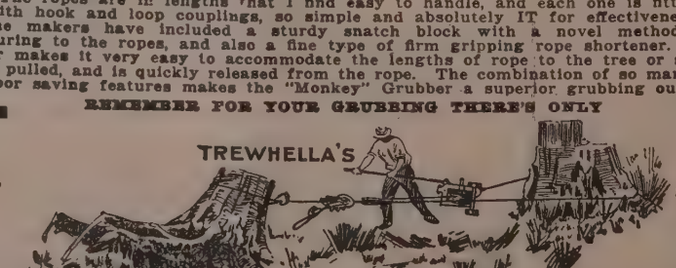
ARE YOU GRUBBING?

Previous experience had convinced me that to be really efficient a grubbing machine should have ample power and ropes that will meet the heavy demands required of them. I found that shovel and axe work is very costly either by itself or in conjunction with a machine. The machine that offered these features, with a host of others, was THE "MONKEY" GRUBBER.

It gave me the power of 260 pairs of hands in a simple and compact form; the lever is short, so that I am able to stand firm-footed and get the full stroke. There are two speeds in the machine, as well as an automatic release that allows me to let off a strain, or as the machine will work in any position, it comes in for all jobs that would require a chain block. It is taken to the job on a pair of wheels like a barn truck, and is rigged for work in a few minutes. The ropes are in lengths that I find easy to handle, and each one is fitted with hook and loop couplings, so simple and absolutely IT for effectiveness. The makers have included a sturdy snatch block with a novel method of securing to the ropes, and also a fine type of firm gripping rope shortener. The latter makes it very easy to accommodate the lengths of rope to the tree or stump being pulled, and is quickly released from the rope. The combination of so many time and labor saving features makes the "Monkey" Grubber a superior grubbing outfit.

REMEMBER FOR YOUR GRUBBING THERE'S ONLY

TREWHELLA'S



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ried Fruits News and Notes

ETTER GRADE DRIED FRUIT

S.A. Grocers on Increasing Consumption

IE "S.A. Storekeepers' and Grocers' Journal" discusses the marking of dried fruits as re- in Victoria, and disapproves e system, in its issue of April t claims that Victorian grocers t that the public has not reacted e expectation that they would ase the better quality fruit, and fore the S.A. grocers induced the Dried Fruits Board not to in- e similar regulations.

etter Fruit Should Be Sold.

adhere, however, the Journal ues, to the assertion that a et exists for better grade dried and one that might be easily ased. This is stated, not as the me of merely theoretical con- ations, but because of the writer's ical experience in retail grocery ritain, where even the smallest grocery stores carry at least if not three, qualities in Currants, nas and Lexias, and find that, at even more qualities resulted in ased sales.

ers Should Educate Their Customers.

orekeepers can do an immense nt in educating their customers cognise the differences that exist een the various grades of fruit displaying, say, two and four n grades side by side, and, as difference in the retail prices in ase of Currants need not be more 1½d., and in the case of Sul- s and Lexias should not exceed per pound, sales of the four n fruit would certainly follow. many stores it will be found that mber of customers will also wel- the opportunity, if the store- er will stock them, to purchase quality Sultanas (5 crown), and Lexias (6 crown), particularly if the fruit is broken out and sifted and displayed attractively.

This statement is borne out by the example of one Adelaide firm, which always carries stocks of 6 crown Waltham (Malaga) Lexias, and sells them at a good price for use as table fruit, and very nice they are for this purpose; several suburban shops we know of also have the same experience.

Dried fruit is really one of the grocer's staple lines. The grocer was the distributor of dried fruit before he handled tea, coffee and cocoa, and almost as early if not quite as soon as he handled sugar; yet to-day, in the country which produces dried fruit in perfection, many grocers neglect the commodity, and neither sell as much, nor make the trade as profitable as they might, did they handle it as it deserves to be handled.

Window Displays are Needed.

With the arrival of new season's fruit, window displays should be made, not on any minor scale, but in an ambitious and massive style, just as if the display was for a competition.

Let the public see masses of fruit, fruit in quantity, and let various qualities be shown, and ticketed with the prices. Let the customers see for themselves just what really good fruit looks like, and inside the shop invite them to see how superior the best lines are in flavor, and freedom from waste, and trade is sure to follow.

To do all this means work, but it means profit also, and increased trade, together with the satisfaction of knowing that grocers are now doing all they can to enlarge and extend the fruitgrowers' most profitable market, that which is at his own door.

ltivation of the Vineyard

Winter Ploughing.

O the viticulturist, cultivation is one of the most important operations in the year—in fact, ay be said that in conjunction with pruning it determines the success ailure of the enterprise. In the t majority of cases, vineyards are highly productive would be thless, commercially, under a em that did not aim at efficiency this respect, says the "N.S.W. icultural Notes" for May.

ll the operations pertaining to the king of a vineyard throughout the mer have a tendency towards the olidation of the soil immediately w the surface. This is accen- ed by early Autumn rains and by growth of weeds incidental to such s. In such a condition, accumu- d water is quickly shed from the face, and more particularly so if land has any appreciable fall.

Winter cultivation aims at enabling land to absorb moisture and pre- ting "run-off," and a broken, loose dition is therefore produced. urally, the rougher and more open surface, the more easily does the er find lodgment, and the greater likelihood of it reaching the sub- . In the early Winter cultivation, truction of weeds is purely ndary, although it is very largely cted.

Under normal circumstances, the ier the Winter ploughing can be cted the better.

n most viticultural districts the ditions generally admit of the ploughs being started in May, all that is required being sufficient rain to moisten the soil, in order that the ploughs may readily break it up. Where small areas are concerned it is a simple matter, but with large vineyards the work has to be started early in order that it may be completed in good time. The

Nature of the Soil

has to be considered, and the ploughing so arranged that the most difficult portions are completed first. Heavy soils should, in most cases, be completed before they become too wet, while lighter ones may safely be left until later, as they may be ploughed at almost any time.

The system of ploughing varies in different districts and according to local custom, but it should be accepted as an axiom that the lower the average rainfall the greater the care that should be put into cultivation. **Efficient work aims at complete turning of every portion of the surface at least twice a year.**

Advertising Australian Dried Fruits in England.

S.A. Dried Fruits Board

REPORT OF JUNE MEETING

THE Board held further long sessions at its meeting on June 14, when all the members and the Secretary were in attendance.

Included in the heavy volume of business transacted, the greater portion of which was of a routine character, the following matters were dealt with.

The formal draft of the eighth report of the Board for the year ended February 28, 1937, was adopted, and the Secretary was directed to submit the report to the Minister of Agriculture.

In regard to joint action by the Boards in South Australia, Victoria, and New South Wales in policing the industry in New South Wales, the programme submitted in a memorandum of New South Wales Board was approved by the Board.

A request was received from the A.D.F.A. South Australian River Council for the Board to arrange a more intensive policing of the industry in South Australia. The present methods of the Board in conducting investigation work were reviewed and discussed at length, and it was agreed that in the opinion of the Board these methods could not be extended within the Board's present resources, and that a reply be furnished to the request in these terms.

The article in the "S.A. Retail Storekeepers' Journal" for May, 1937, on the advantages of the retailer featuring crown grades in his sales of dried fruit was noted, and Secretary reported he was collaborating with the executive of the Retail Grocers' Association in the matter of a series of window displays in Adelaide, which the Joint Publicity Committee agreed to arrange.

The Chairman reported that in company with the Secretary, he had attended a conference in Sydney on June 1, 1937, when alternative marketing proposals were considered, and were now under consideration by the several State Boards.

Minutes of the Joint Publicity and Consultative Committees held in Sydney on June 1 and 2 were submitted and noted.

Reports of Investigation Officers were considered at length, together with the progress report of the Chief Investigation Officer on his visit to the northern areas of the State, and on his enquiries among storekeepers in the larger towns.

Financial and statistical business was also disposed of.

VICTORIA'S PRODUCTION 39,000 TONS.

The total quantity of dried fruits harvested, processed and packed in Victoria in 1936 was 38,627 tons. This was composed of 3,870 tons Currants, 30,258 tons Sultanas, 4,499 tons Lexias and 3,642 tons of fruit grown in N.S.W. and packed in Victorian plants.

30,990 tons were sold overseas and 6,858 tons sold in Australia, leaving a carry-over of 779 tons. The overseas shipments went to Great Britain, 16,407 tons Canada, 10,940 tons; and New Zealand, 2,442 tons.

N.S.W. LEVY.

The New South Wales Dried Fruits Board lately announced that the contribution by growers in respect to the 1937 season's fruit will be at the rate of 5/6 per ton in lieu of 5/10 per ton, as previously.

This contribution will be applied towards the cost of defraying the expenditure involved in the administration of the Dried Fruits Act and of carrying out the duties and functions of the Dried Fruits Board thereunder.

The Board also decided that the contribution will be collected from packing sheds on behalf of the growers.

Phone: Epping 96. After hours: Epping 58.

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FRUIT TREES

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THE MARKET GROWER

OFFICIAL ORGAN OF THE MARKET GARDENERS AND FRUITGROWERS' SOCIETY OF VICTORIA.
ALSO OFFICIAL ORGAN OF THE KOONDROOK & BARHAM TOMATO GROWERS' ASSOCIATION.

The Soya Bean

Its Many Uses

THE various uses to which the Soya Bean can be put has made this crop a valuable one in many parts of the world, particularly in the East, where it is highly valued as a food, and in America, where it has been used for many purposes in the manufacture of motor car parts by the Ford Motor Company. Many years ago Henry Ford undertook to make cheap motor cars, and the world laughed heartily. It has stopped laughing, because the joke was not on Mr. Ford. Lately, he has said that the Soya Bean will become a dominating influence in world affairs. This time the world has laughed with less conviction.

For many centuries the Chinese and the Japanese have existed without the cereals and foodstuffs with which Europeans are familiar, and almost without meat. They have relied on rice, fish and on the Soya Bean. Before the introduction of Western industrial methods into Japan, Soya Beans were first and foremost a source of food. Now the utilisation of Soya Beans in Japan has been brought to a fine art. It has been stated that the main value to Manchuria to Japan is primarily as a source of cheap and ready food for her ever-growing population. Most of Manchuria's cultivated land is devoted to Soya Beans.

Since 1907, Soya Beans have been growing in importance as a commodity for export all round the world. For example, Great Britain imported 160,000 tons in 1935, while Germany took no less than 1,000,000 tons in 1934. There are two applications of the Soya Bean which have been known for many years. By squeezing the Beans an oil is obtained which is something like linseed oil. The remaining crushed seed forms a very valuable cattle food.

For Industrial Uses.

Soya Bean oil has been extensively employed for the manufacture of paints, varnishes and lacquers. The same oil finds application for linoleum and oilcloth, in the production of ruber substitutes, as a lubricant and as core oil in foundries.

As a matter of fact, Ford, practising what he preaches, has grown Soya Beans in the United States of America and applied the oil obtained to motor car manufacture. From results obtained from 12,000 acres of Soya Beans, he states that 50,000 acres will supply enough Soya products for 1,000,000 cars annually. This would give 825,000 galls. of oil suitable for enamel, 540,000 galls. for shock-absorber fluid, and about 200,000 galls, for foundry work. With the material he has left over from the operations already mentioned, Ford makes such things as steering wheels, gear-lever knobs and distributor parts.

For Making Soap.

By far the largest amount of Soya Bean oil is employed to make soap. In the United States, Great Britain and Europe, enormous quantities go into soap. One of the greatest English soap companies has employed it for many years. One of the materials obtained in soap-making with Soya Beans is glycerine, the starting point for high explosives. When deordorised and refined, the oil is used for margarine. It is also employed for cooking and as an edible oil.

Some idea has been given of the industrial importance of the Soya Bean. Perhaps of even more importance is its food value. Much has been heard in recent years about proteins and vitamins. Proteins are obtained from meat, milk, eggs and bread. The Soya Bean contains three times the protein content of wheat and eggs, and also those groups of vitamins which are essential to human life. Moreover, it contains iron calcium, magnesium and other salts necesary to human welfare. It is a great muscle builder and the phosphorus it contains makes it good for nervous disorders. It could be the most useful and by far the cheapest method of fighting malnutrition.

For Human Food.

In the United States, where an area exceeding 5,000,000 acres is already planted with Soya Beans, there has been much activity with the preparation of foods from home-grown Soya Beans. They make margarine, lard substitute, mayonnaise and salad oils. The Beans, suitably treated and ground, go into cocoa, drinks of all sorts, sweets, chocolates, cakes, cheese, sausages and bread. Milled into flour, they are used in breakfast foods, beverages, infant and invalid foods.

For many years the flour has been largely used for diabetic sufferers, because it contains little starch, a lot of protein, and vitamins A, B, D, and E. In America, too, special varieties of Soya Bean plants yield a green vegetable which has taken its place with the standard vegetables. The Beans themselves are used in very much the same way as Haricot or Butter Beans.

The United States is already an exporter of Soya Beans mainly to Europe. In Great Britain many Soya Bean products are obtainable, although the part played by the Bean is not made public. Several well-known sauces have always had it as a principal ingredient. The Soya Bean will not grow anywhere. Germany has been trying for years to grow Soya Beans, without success. The seeds will not take to German soil, and Germany has to import large quantities for food and other purposes. The Soya Bean requires a light, dry soil and a hot Summer, and would grow prolifically in many parts of Australia, but there is little demand for it in this country at the present time.

The Russians grow large quantities near Manchuria, and Canada already has 50,000 acres growing this useful Bean.

Protect Your Plants

FROM SNAILS, SLUGS, APHIS, AND ALL GARDEN PESTS WITH

PESTEND SUPERFINE

(Tobacco Dust)

Expert gardeners and growers recommend the use of PESTEND SUPERFINE—either for dusting, spraying, or for dressing the soil.

Used in a spray-duster or pressure-gun, PESTEND SUPERFINE adheres better, lasts longer, and costs less than ordinary spraying powders.

PESTEND SUPERFINE Tobacco Dust is non-poisonous to plants, inexpensive and easy to use. Try it out yourself!

Obtainable in 4 lb., 28 lb., and 1 cwt. bags at all produce stores, or direct from W. D. & H. O. Wills (Aust.) Limited.

5869-3-7

TOMATO CROP COMPETITIONS.

Results at Portland.

The Secretary of the Portland and District Pastoral, Agricultural, and Horticultural Society, Mr. W. R. Egan, forwards the following results of the 1937 Tomato growing competition conducted by the Society. In expressing the points awarded, the first column shows productiveness and commercial value, the second column represents freedom from disease and broken plants, the third column shows freedom from weeds, condition of soil and growth of plants, and the last column the total points awarded. 25 points are possible in each column, with a total of 75 for perfect records. The awards are given as:—

Best Acre.

D. McMillian ..	25	24	25	74
J. Stuchberry ..	21	24	25	70

Half Acre (Staked).

H. J. Petrie .. .	25	23	25	73
D. McMillan ..	24	22	25	71
J. Allen (1)	22	20	23	65
C. F. Weddings .	21	20	22	63
J. Allen (2)	20	20	20	60

POTATO MARKETING BOARD.

Associations Considering.

The Executive Committee of the Potato Growers' Association is considering the establishment of a Potato Marketing Board under the provisions of the Marketing of Primary Products Act, 1935. The Minister for Agriculture has already been petitioned for the application of the Act to Potatoes, and the Association has asked him to postpone action for a month to allow branches of the Association to express their views upon the proposal.

"Plane" Brand Dusts

"Beauty" (Knapsack) Dusters
"Superior" (Rotary) Dusters

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N. N. McLEAN Pty. Ltd.
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MELBOURNE

FOR BEST RESULTS WITH TOMATOES.

Six Important Rules.

For the best results with Tomato it is important that only seedlin that are strong and vigorous sho be planted out. Careful experimer have demonstrated the marked i fluence of the early life of the pla on its subsequent behaviour. In vi of this, and of the fact that m plant diseases are due to parasi fungi, the following rules should observed:—

1. Choose healthy seedlings.
2. Practice crop rotation.
3. Raise seedlings under a wat proof cover open to the north-eas
4. Avoid over-watering of seedlin
5. Spray with Bordeaux mixture
6. Burn the crop residue at the of the season.

Plants grown on stakes and pru are less liable to damage by disea and pests.

VEGETABLE BRIEFS.

More than 160,000 persons are e ployed in Northern California, p ducing and packing Asparagus alo

:: :: ::

All of the forty Asparagus grow in Imperial Valley (Calif.) are m bers of the Co-operative Market Association.

:: :: ::

Four counties in South Idaho h joined together in forming a Co-op tive Livestock Marketing Associat

:: :: ::

Central California will har Asparagus from 62,000 acres season.

:: :: ::

Spinach is now being canned in canneries in the Stanislaus Cou (Calif.).

:: :: ::

Congress is being asked to pro a bounty on sugar beets grow California. If this is approve will mean an additional £80,000 year to growers.

:: :: ::

During May, Nevada nursery commenced the shipment of 20,000 Tomato plants to Utah growers.

:: :: ::

Hernando County (Florida) plant 1,500 acres with Peanuts feeding pigs this year, twice acreage of 1936.

:: :: ::

125 acres of Cucumbers have planted in one Florida County, largest single tract ever cultivate the County. The tract has not farmed for several years.

ET GROWER—(Continued).

ents' Travellers Eliminated

reement Reached in N.S.W.

agreement has been reached be- een growers of Peas and ans on the North Coast and at Sydney markets, whereby travellers will be eliminated rowers' organisations will in upport the agents by not sell- ainst them, providing selling are satisfactory.

agreement is a big advance ordinated marketing between er and consumer, and will go a ay toward smoothing the way nilar action in districts where owers and agents are at present accord, and also in the fruit y, which in N.S.W. is over- with travellers seeking consign- for agents not connected with sible organisations. For some erable time, concern has been sed by growers and agents at the excessive competition for es that has been going on, compelled licensed farm produce to send out travellers to the rs in ever increasing numbers.

L. T. Pearce, Markets Repre- ive of the Fruitgrowers' ation, stated recently that the ive competition was demon- d in many ways, and particu- by the employment of canvassers avellers throughout the Eastern in the various districts that about to commence harvesting ticular product. He had it on authority that as many as 30 lers had been in one small town one time, so that the resultant ion of growers' properties and oliciting in the main street of wn became almost an annoyance.

h agents and producers had aware of the immense cost that practice thrust upon the indus- On a conservative estimate, a ler would cost at least £12 per while 30 in a small district to e a quota of a crop practically nted to that same crop being d immediately to the extent of that was, assuming a traveller ined for one week only.

a result of this unnecessary cost the industry, agents in the Syd- markets selling Peas and Beans been in conference with the Com- e of Direction of Fruit Market- Queensland, and the Banana ers' Federation of N.S.W., and arties had, amongst other things, ed to the elimination of travellers the territories of the growers' nisations concerned.

iefly summarised, the agree- concerned the following ers:—(1) Travellers to be nated; (2) Peas and Beans to be by weight; (3) faulty packages quality to be reported by agents in four hours of the opening of ets; (4) agents agree to supply of account sales to the growers' nisations upon receiving instruc- from individual growers to this t; (5) price telegrams to be sent when requested by growers and growers' expense; (6) growers' nisations concerned to have re- ition and support, and a service of 1d. per package to be paid to n by agents.

PATENTS
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PATENT ATTORNEY
CITY HOUSE. 499 LITTLE COLLINS ST. MELBOURNE.

New Zealand News and Notes

EMBARGO ON CITRUS LIFTED — MR. THOMAS APPOINTED DIRECTOR OF MARKETING — EXPORT PRICES — LIGHT CROPS, BUT 1938 ESTIMATED AS HEAVY.

(By Our Correspondent.)

THE MOST IMPORTANT item of New Zealand news during the past month has been the announcement by the Government of the removal of the embargo on Victorian and New South Wales Oranges where produced in a fruit fly free area. In some quarters this announcement was not unexpected, as it has been realised that with the Californian frost there will once more be a shortage of Oranges in New Zealand after supplies from the Cook Islands and South Australia cease.

Although the Government announcement fixes the date for the removal of the embargo as at December 1, it is expected that supplies from September onwards will be short until Jamaican come into full supply, and as the announcement made by the Minister of Customs states December 1, or before if necessary, those closely associated anticipate some relaxation by September. Although the districts from which Oranges can be shipped will be restricted to practically the Irrigation Areas, this should nevertheless be of considerable benefit to the Australian markets generally.

It is a pity that Mandarins will still be practically excluded, owing to most of them being produced in coastal areas, as this particular fruit is very popular in New Zealand. Undoubtedly irrigation area fruit will go to a premium as it is expected in New Zealand that heavy shipments will be required, and although there is no suggestion of the Government fixing prices, the ordinary demand should be such that shippers will secure good prices.

Preventing Unlimited Supplies.

We have heard, unofficially, that the Government do not intend to allow unlimited supplies to come across from New South Wales. If there is any indication of this it can be expected that the New Zealand Government will soon apply a quota. For some years now they have encouraged the trade from Jamaica, and it would be rather unfair, now that the Jamaican trade has been worked up to quite a substantial figure, that further supplies should be prejudiced by heavy supplies from New South Wales, with correspondingly cheap prices.

We would like to make it clear that there is no official statement about a quota, and there may be no necessity for a quota being imposed. It is pleasing to know that the New Zealand Government is not restricting the trade as they did last year when the embargo was temporarily lifted in November-December. Under the system adopted then, only four firms were given the right of importation, but for the coming season all importers will have freedom to secure their supplies from the available sources, and this alone should keep prices at a reasonable figure.

Director of Marketing.

In our last notes we referred to the pending appointment of a Director of Marketing under the direction of the internal Marketing Department. When an appointment of this type is to be made there is much speculation as to the appointee, and, as usual, the specultors were wrong, the actual appointee being Mr. Thomas, who was the appointee of the Industries and Commerce Department on the Fruit Commission which recently published its report. From all we can learn this appointment has given satisfaction generally throughout the trade, and we are of the opinion that the close investigation made by the members of the Fruit Commission, of which Mr. Thomas was a member, will stand him in good stead in his new position.

There are many pit-falls in fruit marketing, and Mr. Thomas probably learned something about all of them while the Commission was taking evidence, and we are inclined to think that he will take care to investigate all phases of the position before committing his Department to any definite action. We also believe that he will not hesitate to consult with the various sections of the industries concerned, and if this is done he will undoubtedly secure full co-operation from all sections.

Export Prices.

According to cables, the market since the date of the Coronation has rapidly gone from bad to worse, and the present prices can be regarded as absolutely unprofitable to all concerned. As far as New Zealand is concerned, nobody has, as yet, been able to advance a sound reason, unless it was that the heavy arrivals of Australian and New Zealand Apples immediately after the Coronation coincided with the reduced demand which was to be expected. Even if this did take place it does not explain why, with very much lighter shipments, prices are, if anything, worse than the preceding year.

It is reported that heavy quantities of New Zealand arrivals have been stored pending an improvement, but there is a definite risk involved in the storage of New Zealand fruit this season as the growing conditions did not favor good sound-keeping fruit. In the first place crops were light, and secondly, weather conditions were unfavorable, owing to excessive rainfall. It is to be hoped that the New Zealand policy proves to be successful. It has certainly been justified on the prices which were available for immediate sale.

No reports have been released as to prices secured for the Continental shipments, but presumably Continental markets would be effected as a result of the lower values in London.

It now seems almost certain that the Government will be called upon to make good the deficiency between their guaranteed price and the actual realisations. It is too early to even make an estimate of what the amount is likely to be. The fruitgrower who carried a normal crop is individually all right, as, in addition to quite a satisfactory Government guarantee, he has received the benefits of a very profitable local market. This may not be the case in 1938, as there should be a bumper crop in that year, and it seems apparent that the export markets are not capable of absorbing any greater quantity from Australia and New Zealand, and furthermore, competition from South Africa and the Argentine is increasing.

The Government guarantee will be renewed, but we anticipate on a slightly different basis. The point which is troubling the grower, who is looking ahead, is—what of the future, and as far as the future is concerned, it seems Australia and New Zealand are in the same position.

MODERN TOP GRAFTING.

A REPORT contained in the latest Horticultural Abstract of the Imperial Bureau of Fruit Production (England) states that modern methods of top grafting of fruit trees has been investigated at the Norfolk County's Experimental Stations, and shows that nearly all Apples and Pears can be satisfactorily top grafted, but stone fruits are more difficult.

Apple varieties that are somewhat unreliable include Emneth Early, Lord Grosvenor, Lord Suffield, Newton Wonder and Ribston Pippin. Results also show that high-grade heavy bitumen emulsions are preferable to grafting wax or tape binding as a protective covering for the grafts.

"HILLMAN" ORCHARD STRIP PLOW

Double Furrow

A sturdy, strong plow equipped with reversible discs to enable the operator to plow up to, or away from the trees. Operated by a single lever and with nothing to catch branches of trees. To facilitate the movement of the plow around the orchard the discs are movable and lift clear of the ground.

The steering arms are drop forged from the best mild steel and the main wheels are equipped with ball bearings.

Two medium horses can work this machine all day without tiring. A machine may be obtained for a trial at any time.

Further particulars apply . . .

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Motor Cars, Trucks, Tractors

Tyre Mileage

THE subject of tyre mileage is of prime importance to every owner. Cars and tyres are better to-day than ever, and very good tyre life can be expected under modern driving conditions. To-day the mileage given by all good makes of tyres depends much more on the way the car is driven and the roads upon which it travels than upon any other factors.

There is considerable variation in tyre mileage due to differences in road surfaces and average temperatures, even in localities close to each other. The presence or absence of hills will have an influence. Hard driving is one major cause of rapid tyre wear. This covers fast driving, quick, grinding stops, and skidding. Also detrimental to tyre mileage are incorrect inflation, wheels out of balance, and misalignment of the front end of the car.

Many of these factors are under the control of the driver. Tyre mileage is sufficiently important to warrant close attention on the part of owners to the hints now given by General Motors-Holden's Ltd., to increase tyre life.

Have the pressures checked at least fortnightly and keep the tyres at the recommended pressure. Under-inflation causes scuffing of the tread, weakening of the fabric and susceptibility to road damage. Over-inflation gives a hard ride, causes the wheels to bounce and spin, and wears the tyres more rapidly.

Do not consistently overload the car. The rear tyres wear faster than those on the front wheels. To equalise the wear, interchange back and front tyres at intervals of about 5,000 miles.

Front wheels should always be properly aligned. Have the alignment checked regularly once a year, and whenever excessive tyre wear is indicated, especially uneven wear.

Apply brakes gently. The black streakers left on the pavement after an emergency stop are composed of rubber from the tyres.

TO CHISEL OFF A RUSTY NUT.

If a nut rusts and cannot be unscrewed with a spanner, the only course left is to start it with a hammer and chisel. This can be done as follows:—

First soak it with penerating oil or kerosene for as long as possible. Then, using a chisel and heavy hammer, apply the chisel about half-way along one of the flats. Starting near a corner will result probably in the corner merely being cut off without the nut being started.

A heavy piece of steel held against the opposite side of a nut at an angle in the direction of nut travel, will assist.

Once the nut has been started sufficiently for the spanner to deal with, tap down the burr and file it sufficiently for the spanner to be fitted.

The correct way to hold a cold chisel is with the last three fingers against the palm of the hand. In this way the grip will be sufficiently loose to allow the chisel to be knocked through if it slips or carries through the work suddenly. With a tight grip the hand is likely to be knocked down with the chisel into painful contact with something beneath.

About the Battery

WINTER cold will bring starting trouble, and all its attendant inconveniences to many motorists, simply because they neglect a few simple precautions. Petrol, lubricating oil and the battery; these are factors which have to be given common-sense consideration to avoid Winter trouble.

The petrol must be of high volatility, so that when it mixes with the intake air, a rich enough mixture results to give immediate firing at the first spark. The well-known super grades of petrol conform to this high standard of volatility.

Then there is the important question of lubricating oil. Experts agree that a lighter oil is needed for Winter motoring. The colder it gets the thicker the oil becomes, so that to get the same free flow of oil to all moving parts in the Winter time a lighter oil is needed than in the Summer. Summer oil will thicken up in Winter and in a cold engine its stickiness will make starting very much more difficult, and give the battery a great deal more work.

The remedy is to drain out Summer oil and refill the sump with the recommended Winter grade. In other words, during the Winter months, the car demands the correct diet, highly volatile petrol and lighter Winter grade oil.

All simple starting problems come back to the battery. The modern battery is a strong, reliable servant, and given reasonable treatment it will not let the motorist down. But in the Winter time, it asks just a little more respect than in the Summer—a quick starting petrol that will save the battery from the heavy drain of long cranking periods; a Winter-bodied lubricating oil that will make the engine much easier to turn; and regular inspection as regards water and cleanliness of terminals. These are simple, inexpensive precautions all, and attention to them will add greatly to the comfort of the motorist during the Winter months.

PROPER PARKING.

Most trouble in close parking comes from a wrong beginning—from not pulling far enough ahead or not getting close enough to the car in front, or both. The object is to get the rear of the car in place. Once the rear of the car is in place the rest is very easy.

Assuming a right start, then one of the hardest things to learn, in fact, the only hard thing to learn, is just when and how much to turn the wheels in backing. Watch the rear right mudguard of the car behind. As soon as the rear mudguard is headed directly toward the headlamp of the other car, then turn the steering wheel sharply in a clockwise direction while still backing slowly.

Continue backing as far as possible without hitting the other car. Then straighten the front wheels and pull forward into position. Do not try to park too close to the curb, because that makes it difficult to get the car out again.

General Motors-Holden's Ltd. advise all drivers, before leaving the car, to put on the emergency brake, but if the road is level, set it rather lightly, so that the car can be pushed forward or backward by other parked cars without damaging the bumpers. When parking on a slope, the break should be put hard on.

FUEL CONSUMPTION.

Tests made on a Pontiac car under average driving conditions to determine the influence of speed on fuel consumption show some interesting results, says a recent report from General Motors-Holden's Ltd.

Taking the average fuel consumption over a given mileage at a car speed of 40 miles per hour as a standard, and increasing the speed to 50 miles per hour, the fuel consumption increased 16 per cent. At 60 miles per hour, 34 per cent. more fuel was required than at 40 miles per hour. At 70 miles per hour the increase in fuel consumption was 56 per cent; that is, this 75 per cent. increase in speed was gained at the cost of a 56 per cent. increase in the fuel required to cover the same distance.

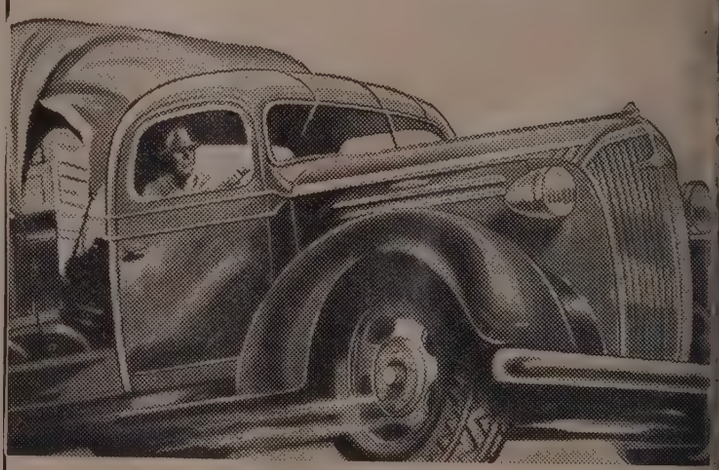
Of course, there are other items besides speed which affect fuel economy. Quick acceleration, hill climbing, excessive use of the brake and frequent starts and stops all use up fuel at a faster rate than straight driving. For instance, a car capable of 20 honest miles per gallon today may give only 10 miles per gallon in driving through traffic.

An indignant voice was heard at the other end of the telephone line.

"You promised to send a man to mend my doorbell, and you have not done so."

"Yes, madam, I came myself," was the reply. "But I rang four or five times and nobody answered, so I concluded you were out."

More Power per Gallon
Less Cost per Load
WITH THE NEW
CHEVROLET
30 cwt. - 2 ton and Commercial Models



NEW BIG VALUE FEATURES include: Improved Perfected Hydraulic Brakes – New Full-floating Rear Axle – Four-bearing Crank and Camshafts – New Improved Engine Supports–New Stabilised Front End – New Steering with Increased Ratio – New Stronger, Straighter Frame – New U-Type and Box Section Cross Members with Alligator Jaw Fastenings – New Spring Hangers, Springs and Spring Helpers – Massive appearance with steelstream styling – All-Steel Sedan-Type Safety Cabs, with V-Type Safety Glass Windscreen, etc.

CHASSIS PRICES :
Commercial Truck from - £230
30 cwt. - 2 ton Truck (131 w.b) from - - £277
30 cwt. - 2 ton Truck (157 w.b.) from - - £297
All Prices Plus Sales Tax.

DON'T FORGET PRESTON MOTORS' 24 HOUR ACCESSORIES AND REPAIR SERVICE.

Six Cylinder CHEVROLET Long Life
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ITRUS NEWS AND NOTES

E CURING OF LEMONS.

rrect Storing Essential.

good general advice upon the Lemons is given by Mr. Geo. previously Chief Horticultural or, South Australia.

sting.—Harvest with great e fruits which have reached size and preferably those ave begun to color. Fruit ep yellow in color will not ng, and green fruits often color up under the treatment elow.

ng.—Place fruit in picking sweat boxes and stand them oderately draughty shed or free from rain, to wilt for ranging from a few days in ather to ten or twelve days p or humid weather when tion is slow—but do not over- skins.

ng.—When the skins feel a ughened (which may be tested eezing gently a typical fruit a flame, and if spots of oil easily expressed as seen by gnited in the flame, they will right), carefully sort over the scarding for earlier sale those scars deemed likely to admit and pack the sound ones in boxes, say not more than hree fruits deep and stack the tiers in the store.

room.—The type of storeroom be an underground or partly round structure to assist in ining an even temperature. tion and absence of light are ant, as is also regulation of ts and humidity in the atmos- Too much draught will the fruits, whilst too much r high or fluctuating tempera- end to premature ripening.

lly the main crop of Lemons dy to be harvested for stor- ut July or August, and the air dry then. In fact, some gentle t is desirable to carry off sur- xhalations from the fruit in ut as the outdoor temperatures he windows, doors and ven- need carefully regulating. As becomes drier in the store, is sometimes sprinkled on the nd walls, and even over the themselves, to prevent over ation.

lly about three or four weeks first stacking the fruit in the it is necessary to look through ays or cases to sort out those nes which are decaying, and would otherwise breed moulds others. The main points to be ered are:—

er the fruits very carefully at ht stage.

off the crispness from the

out the doubtful specimens and the remainder in shallow con- , in darkened rooms.

first permit ventilation and ards gradually diminish it.

ntain an even and reasonably mperature and maintain suffi- humidity in the atmosphere of ore to prevent over-drying of ins. No chemical treatment ssary to preserve the fruit.

Department of Agriculture in has approved the export of fruits to the value of R.M. 2 to Germany this year.

CITRUS EXPORT.

Review of 1936 Season.

62,000 Cases Shipped.

IN A REPORT from London to the Commonwealth Government, Mr. W. M. Carne, Fruit Research Officer, reviewed the 1936 citrus export season, and stated that Australian Oranges, especially Navels from S.A., were equal to any received on the London market during the season under review. He also recommended earlier shipping in future seasons.

The 61,959 cases received from Australia represented 57,148 boxes of Oranges, 4,762 Lemons and 49 Mandarins. The 1936 season commenced on June 16 with Lemons and Navels from N.S.W., and on June 19 with Navels from S.A., and continued till October 10. Of the commercial shipments of Oranges, 21,000 boxes were Navels, 36,000 boxes Valencias, and the balance experimental lots for the C.S.I.R. and gift samples. The Mandarins were confined to experimental shipments.

Quality and packing were considered by the trade to be superior to that of the previous year, especially in regard to color, stated to be an improvement over similar competitors' fruit from South Africa, California and Brazil. South African and Brazilian Oranges, however, dominated the market during the Australian season and determined price levels.

Lemons were landed in good condition, but, if anything were a little forward in color, and, though of good quality, were not equal to the best from competing countries. Lemon prices were abnormally high, resulting in receipts from unusual sources not generally seen on the London market.

Amongst the recommendation submited in the report were that "Lemon box" be deleted and "Orange box" be altered to "citrus box," and such be used for all citrus shipments. This would remove one unnecessary box and also bring Australia into line with South African packing. Nomenclature to be altered to "Navel" to cover all varieties of Navel Oranges, Valencia to include late varieties, "Med. Sweet" to be adopted for Mediterranean Sweets and "Seedling" for all other Orange varieties. He argues that an adoption of the above recommendations would simplify distribution and conform to British trade conditions.

From the experience of the 1936 season he concludes that 38 to 40 degrees Fahr. is still the best nominal temperature for the carriage of citrus fruits from Australia. Possibly 36-37 degrees may be better with late shipments of Navels. He suggests, in conclusion, that Navel shipments might be commenced at an earlier stage of maturity and the season extended by later shipments.

BETTER FRUIT ON SHIPS.

Complaints from Travellers.

Travellers returning from England complain that when they reach Australian ports no improvement in the citrus fruits provided by the ship is noticed. They feel that at least when in Australian waters, it could easily be arranged to have local seasonable fruit on the table.

The Central Citrus Association is approaching the shipping companies upon this important matter. A well-known member of the fruit trade recently reported that the Oranges served at his table were shrivelled and scaly, whilst the Grapefruit was thick in rind and of very poor taste. Compared with California Oranges served earlier on the trip from England, he said, the inferior fruit supplied in Australia was a very bad advertisement for the Commonwealth as a citrus-growing country.

N.S.W. CITRUS DEFENCE ASSOCIATION.

At a meeting of the N.S.W. Citrus Growers' Defence Association, held at Windsor on April 10, it was decided to approach the Australian Labour Party on the question of the abolition of the Orchard Tax.

Mr. J. E. Ward (Griffith) reported that at the first meeting of the Citrus Advisory Council he had opposed the request for an export bounty on the grounds that the Federal Government did not give bounties without exacting some form of control over the industry.

NEW CHINESE ORANGE.

Oranges from the Szechuan Provinces have been scientificially developed by the Experiment Station of the National University College of Agriculture at Changtu from selected seed of the better varieties of Chinese Oranges. These have recently been introduced for the first time on the Shanghai market.

The fruit is said to be better in quality than the South China varieties, and to be comparable with Californian Oranges. They were sold at about half of the cost of imported Oranges, although transportation expenses from the growing districts, some 1,500 miles up the river, consumed about 80 per cent. of receipts.

CITRUS PESTS.

Leaf-Eating Weevil.

INVESTIGATIONS CONDUCTED last month by Mr. P. C. Hely, Assistant Entomologist, N.S.W., following reports of the presence of the leaf-eating weevil on isolated citrus crops reveals that, fortunately, its presence is not general. The inspection covered certain trees in the Ourimbah district, where the weevil has been present in the past three seasons. They became abundant about November, when defoliation was noticed, but fruit seemed to be uninjured. Navels and Valencias were equally attacked, but Lemons were relatively free.

The weevils also attacked other plants such as lucerne, Passion vines, Blackberries, flowers and Peaches. They feed largely at night, and are said to correspond with Fuller's rose beetle. The females lay from 150 to 200 eggs each.

Control measures adopted showed that lead arsenate at 1½ lb. to 50 gallons of water was ineffective. Double strength was also ineffective, although the pests fed heavily upon the sprayed foliage. Pyrethrum at the rate of 1 lb. to 40 gallons water, and derris at the rate of 1 lb. to 80 gallons were found to be effective, and caused the weevils to fall from the trees when ants readily attacked them before they could recover in a few days.

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REVIEW OF N.S.W. CITRUS CROPS.

PROSPECTS in the principal a have varied little since F ruary, and estimates then m will be approximately realised. F was badly required at date of our port, and maturity was approach Good crops of Lemons were in si In the Gosford district, Navels w light, but the quality and size w satisfactory. Coloring came ea than usual. Valencias were sn except on aged trees. Joppas w growing well in spite of the dry a

In Kurrajong-Penrith, prosp were unchanged since February cept in Mandarins, which lighte In areas wherein cultivation has neglected the dry conditions du April had a bad effect. Navels large, but the crop was light. F from the highlands has just sta to be marketed. Valencias were filling out as well as was anticip Imperial Mandarins from the Plains area were small and lac juice content. Lemons in this promise well.

Windsor suffered from hail in A and the fruit in some localities marked. Navels colored well. S content was good, although mos the fruit was immature at re Valencias were showing well, Sil backward, other varieties satisfac Lemons and Grapefruit were veloping nicely. Previous estim unchanged.

Griffith area Navels were colo and the fruit was showing up b than was expected. Spring f caused damage in Leeton No. 2 trict, but the majority of escaped. Navels and Valencias showing up well, and good y were anticipated. Leeton No. 1 mised a greater yield than the estimate. Less rough navels last year were seen. Lemons good in the younger trees.

CITRUS IN EXCHANGE FO POTATOES.

N.S.W. Council's Recommendati

At the annual conference of Central Coast Citrus Council, he Gosford, a motion was carried N.Z. Potatoes be allowed entry the Commonwealth in consider of readmittance of N.S.W. fruits by the Dominion.

The President (Mr. A. S. Br said that orchardists would not lying down the dumping of Tasm Apples in N.S.W. at the expen the citrus industry. Promises a next election would not "cut any with the growers unless some was done in regard to the N.Z bargo on Oranges. If the po was not righted, there migh changes in the political repres tion for the district at the next tion.

Other motions carried includ following:—

That the Council for Scientifi Industrial Research be request spare no effort in determini means of processing and perse Orange and Lemon products w view to marketing pure Orange and canned citrus products.

That the regulations conce destruction of neglected citrus t be enforced.

That this conference regard unloading conditions for frui vegetables at Darling Harbour plorable, and urges the nee strong representations being ma the Railway Commissioners f provision of permanent ove shelter.

That the Fruitgrowers' Fede employ all means to secure th pointment of a trust, with grow presentation, to control the S fruit and vegetable markets.

anned Pineapples

Queensland's 500,000 Cases

RING last year the output of canned Pineapples by the Queensland factories totalled cases. Growers received qual to 4/6 per case for the fruit at their own loading s, says the "Queensland Shop-s' Journal."

the greater part the Pineapple are situated in the Redlands , and over those areas ed by the railways between ne and Gympie.

real value of the industry lies t such a large number of s participate in the revenue de- In order to give proper atten- cultivation, five acres in bear- d two in preparation for new igs, is as much as one farmer operly control. The land must despite, or at least rotation of must be considered.

heaviest period of production what is known as the Summer extending from early in January April. Then follows the inter- te and Winter crops. The latter enerally be estimated at about ird of the Summer production. could not be a better indication number of farmers to whom the ple industry is a large part of eans by which they earn a living a visit to a railway station in owing areas of the State, where numbers of vehicles will be seen rging Pineapples for convey- to the canning factories. The n produced is in the hands of any, not distributed amongst a

The control of supplies and ting is vested in the Committee rection of Fruit Marketing. Some ears ago a state of chaos existed e industry, but by present arrangements that belongs to the past. Everything in connection therewith is now well organised, the work being controlled by a body elected by the growers.

One valuable phase of the work by the Committee of Direction is the transferring of surplus supplies of fresh fruit from the open markets to the canneries. This means constant vigilence to meet those situations.

The preferential duties in New Zealand, Great Britain and Canada have been of immense benefit to the export trade, which absorbs about 25 per cent. of the output from the canneries.

From latest cabled advices this trade is increasing at a rapid rate. Every possible endeavor is made to meet overseas requirements. Firms in the southern States entered an objection against this practice, contending that first consideration should be given to Australian requirements. However, there is no reason for complaint, for except for an odd occasion when a rush has occurred through shortages in other canned fruits, the demand has been met.

For some years past Pineapple growing has been mainly confined to the southern part of the State. Now, with what is in prospect, a start on a large scale is to be made by the erection of a cannery for the central district at Rockhampton.

Pineapples can be grown along almost the whole length of the eastern seaboard of Queensland, which is about 1,400 miles. This shows what is possible in Pineapple raising; the same opportunities are there for the production of other varieties of tropical fruits. Many of the inland parts are also well adapted for these purposes.

Asparagus for Canning

Leeton Cannery Interested

a special meeting at Leeton re- y, Mr. C. R. Glover introduced question of the possibilities for ragus growing in the district, a view to production for canning oses. The district has plenty of quite suitable for Asparagus ing, and other conditions are favorable, including water, te and the proximity of a ery.

earlier report in "Murrumbidgee ator" says that Mr. Douglass claimed consideration by Leeton growers of the claims of Asparagus which could be harvested in September to November, and so not conflict with the Apricot season. It would also extend the canning season, and so help the cannery and the district.

It has been pointed out also that, in addition to canning requirements, fresh Asparagus could promote a good market in the Riverina at profitable prices. The matter is being further considered and latest reports state that it is receiving very favorable comment.

EXPORTS TO MAY 31.

Exports of canned fruits from Australia from the commencement of the current season (January 1) to May 31 were as follows. The figures represent cases of 2 doz. 30 oz. tins, or equivalent.

Country.	Apricots.	Peaches.	Pears.	Fruit Salad.	Pine-apples.	Total.
U.K.	49,048	263,124	331,058	756	7,988	651,974
N.Z.	4,796	14,803	6,782	13	984	27,383
Canada	3,316	21,564	1,454	—	12,012	38,346
East	1,738	4,562	3,058	1,088	67	10,513
Miscellaneous	548	1,033	1,504	13	186	3,289
Total	59,446	305,096	343,856	1,870	21,237	731,505

CANNING OVERSEAS.

Five canneries in Stanislaus County (Calif.) are now canning Spinach.

:: :: ::

Another £10,000 unit has been added to the Rio Vista cannery of the California Packing Corporation.

:: :: ::

200,000 cases of Tomato juice will be packed this season by the California Tomato Juice Co. at their Merced cannery.

:: :: ::

A new cannery is being erected for the California Packing Corporation at Toppenish (Wash.).

:: :: ::

The Yakima (Wash.) Growers Co-operative is building a Pear cannery with a floor space of 40,000 square feet for its members. The cannery plans to handle 40,000 ton's of Bartlett Pears which have previously been shipped outside Yakima for processing.

:: :: ::

The Hershel Canning Company, Stockton, Cal., manufactured 15,000 tons of Tomato juice last season.

:: :: ::

£27,000 was paid in wages at the Mantica Cannery (Cal.) last season, and 12,500 tons of vegetables canned.

:: :: ::

1,400 acres of Olive trees on 51 commercial groves in Los Angeles County were harvested for canning last year.

CANNING IN CHILE.

Modern Methods Being Taught.

Fruit growing in Chile (South America) is becoming an important industry, and although Australian canners at present feel no competition from that country, it is possible that at no great future date, Chile will have to be reckoned with in this respect.

Climatic conditions are eminently suitable for the growing of certain fruits, and the introduction of modern methods will greatly increase her production. Grapes, Olives, Almonds, Figs, Apricots, Peaches, Pears and Nectarines all do well in some districts, owing to the versatile climatic areas provided in the country. Cool temperatures with heavy rainfall alternate with almost arid conditions, and Grapes, dried, fresh and wine, are grown with ease. Labor costs are relatively small, and an export trade is being built up.

To meet changing conditions, the Government is operating canning schools to teach young Chileans the art of fruit canning and modern methods, with good equipment, are being taught.

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WANDIN—Choice orchard property. 48 acres, 11 acre orchard, good residential home, lovely situation — Cherries, Apples, Lemons, etc. Handy Station and School. Cash £1,200.—P. Jacob, Wandin North, Victoria.

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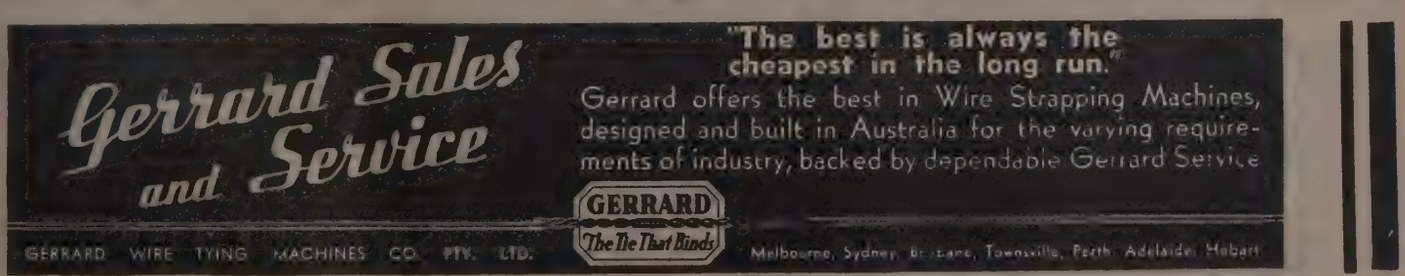
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Export & Commercial News

Overseas Trade Reports

THE LATEST EXCHANGES received give an indication of the coming crops in the various countries reported and acquaint Australian growers of the actual conditions anticipated with relation to overseas exports and the competition on the world's markets that can be expected. Observations reveal that Nature has a wonderful system of balancing and that when one producing country suffers a setback, other countries seem to enjoy a corresponding increase in production for that particular period. It is by knowing the local conditions and prospective harvests in other countries that Australia can, to a degree, estimate the prospects for the coming season.

Canada.

The Fruit Branch of the Department of Agriculture reports that early budding of Apples promises a good crop in Nova Scotia, and that spraying and fertilising are being applied more thoroughly than last season. Commercial orchards are looking very well. In Quebec Province an exceptionally heavy crop of Apples is predicted, whilst Ontario reports a shortage of young trees for planting. Tomato acreage will be greatly in excess of 1936, and canning plants are being enlarged.

Out in British Columbia, indications of a heavy crop of Apples are reported, whilst berry fruits, allowing for damage from a severe Winter, will return a normal crop.

United States.

California reports for May showed promise of a heavier crop than last year, although the season will be late owing to cold weather delaying growth and blossoming; 62 per cent. of the full crop of Almonds was in sight at time of the report. Apricots will be slightly heavier than last year in spite of brown rot showing in some areas.

Citrus in Florida recovered well after frosts and an estimate of 18 million cases Grapefruit is given. California Valencias should touch 16 million cases, much of which will be second-grade and be absorbed as by-products, somewhat less than last year. Raisin, table and wine Grapes indicate a larger harvest than 1936.

Peaches give indication of a large crop, but, at report, the setting was not as uniform as usual. Pears were promising well, Bartletts will be heavy. Prunes were likely to be about the same as in the same period of 1935, and heavier by 20 per cent. than last year.

The Argentine.

The Department of Trade and Commerce, Ottawa, reports it is only comparatively recently that the public in Argentina has been able to cultivate a taste for quality fruits, but now the Argentine is becoming an exporter of fruits instead of an importer. Citrus will be her greatest interest.

There was always a certain amount of fruit of generally inferior quality grown in Argentina, but until recently no proper system of grading or storage existed, so that the limited quantity was available only during the immediate season of production. Otherwise Apples, and to a limited extent other fruits, were imported as a luxury article to be consumed by the few able to afford them. During the twenties Apples were imported mainly from the United States, and shipments increased steadily from 45,257 boxes and 13,000 barrels in 1922 to a peak of 211,516 boxes and 157,332 barrels in 1930. Thereafter imports fell off sharply due to the depression and have not recovered, the lowest year on record for imports being the season just closed with some 56,086 boxes and 18,067 barrels. Canada is credited with 6,600 boxes this season against 12,852 boxes in 1935-36.

Argentine Production.

The development of the fruit-growing industry in Argentina may be credited, in its origin at least, largely to the initiative of the privately-owned railways.

Argentina has no chilled storage at production centres nor refrigerated rail transport facilities. On the basis of present planting alone, the peak production year for Apples will be after 1940. The most popular varieties grown in Argentina are the Delicious, Rome Beauty, Jonathan, King David, and Gravenstein. Similarly, the Delicious is the favourite imported variety.

Argentina exported only 9,335 boxes of Apples during 1934. This figure was increased to 76,929 boxes in 1935, and last year reached the total of 208,983 boxes. Similarly, shipments of Pears last year at 519,682 boxes may be compared with 238,088 boxes in 1935 and only 84,630 boxes in 1934.

Exports.—During 1936 Argentine exported 208,983 cases of Apples and 519,682 cases of Pears, nearly three times the quantity exported in 1935. Their largest customers were U.S.A., Sweden and Spain for Apples, and Great Britain and Brazil for Pears.

But while exports have increased, the Government has attempted to make local consumers "fruit minded" by making good quality fruit available at a reasonable price. To do this they instituted propaganda supported by direct sales to consumers per medium of Government-oper fruit trucks, and low rates for pa post shipments to country consum General farmers are also being couraged to plant fruit trees.

AUSTRALIAN APPLES IN LONDON.

Landing Condition Only Fair.

THE report on the out-turn of torian Apples in London a end of April and beginnin May, states that the Jonathans a little disappointing, although Fancy grades landed in splendid dition. Other samples appe slightly wilted and stale, showing or poor color. Dunn's were in sound condition and of good qu Grannies green, clean, sound ar generally good condition, alth some lots were affected with a s pit. King Davids were rather in color, but clean and of good qu

Prices at auction were reporte Jonathans 9/7 to 13/3, King D 10/- to 12/3, Granny Smith 10 15/-, Dunns 7/- to 10/-, and Lo Pippin 7/6 to 10/3.

Pears.

The latest arrivals, at date o port, consisted of Packhams, m green hard. All clean, good qu fruit; Beurre Bosc, good hard c tion, few lots slightly forward, all clean, good quality. B. d'A very good quality; Howells, g hard condition, good quality; phine, mostly green hard cond few ripening, but firm, very quality; Comice, firm ripe in bot and 2¾ inch sizes, quality very

Prices realised were: Packham to 12/6; Beurre Bosc 10/- to 1 Howells 7/- to 9/-; Josephine 11 14/-; Comice 14/- to 18/-; Anjou to 13/-, and Winter Cole 10/- to

UPHEAVAL.

After the recent volcanic eru in Rabaul, a couple, fearing fu upheavals, sent their small son t uncle in another district. A later they received an u message.

"Am returning your boy. Sen the volcano."

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PROMPT RETURNS. SHIPPING NOS.—
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Cheques posted promptly.

Drop us a Line or Cable: "Peachbloom," Dunedin.

ple and Pear Exports

Report to May 31

passing of the peak period export for fresh Apples and ars and the approach of the the programme of shipments l for United Kingdom and tal ports are reflected in the alling off in the volume of fruit shipped during the month of May.

Monthly shipments during the present season are given hereunder, and for the purpose of comparison the figures in respect of the 1936 season are shown in brackets:—

Table of Monthly Exports.

	Apples. Cases.	Pears. Cases.
.. ..	1,422 (869)	808 (148)
y	167,042 (389,272)	88,703 (67,972)
.. ..	1,567,160 (1,705,717)	253,816 (217,360)
.. ..	1,782,879 (1,616,340)	321,521 (237,179)
.. ..	864,355 (1,012,808)	119,669 (78,573)
.. ..	4,382,858 (4,725,006)	784,517 (601,232)

Record of Destinations (Apples).

ng	To the United Kingdom. Cases.	To the Continent. Cases.	Other Destinations. Cases.	Total. Cases.
.. ..	67,193	3,308	21,801 ..	92,302
.. ..	629,080	50,535	25,219 ..	704,834
and	15,148	—	9,312 ..	24,460
Australia	224,063	24,251	14,968 ..	263,282
n Australia	402,194	189,491	61,216 ..	652,901
ia	2,387,126	232,267	25,686 ..	2,645,079
, 1937	3,724,804	499,852	158,202 ..	4,382,858
, 1936	4,049,179	542,344	133,483 ..	4,725,006

ports to "other destinations" comprise the following:—Red Sea and ranean ports, 46,222 cases; India and Ceylon, 32,810; Straits Settle- 29,196; Netherlands East Indies, 20,773; Other Eastern ports, Canada, 11,165; Pacific Islands, 2,461.

Destinations (Pears).

ing	To the United Kingdom. Cases.	To the Continent. Cases.	Other Destinations. Cases.	Total. Cases.
.. ..	14,373	—	14,492 ..	28,865
a	460,948	2,650	6,335 ..	469,933
land	—	—	— ..	—
Australia	50,040	—	1,154 ..	51,194
n Australia	22,754	6,941	1,393 ..	31,088
nia	201,127	—	2,310 ..	203,437
l, 1937	749,242	9,591	25,684 ..	784,517
l, 1936	566,483	14,179	20,570 ..	601,232

xports of Pears to destinations other than the United Kingdom and ontinent of Europe consist of shipments to:—Red Sea and Mediter- ports, 2,227 cases; Canada, 5,844; Straits Settlements, 5,601; Nether- East Indies, 3,854; India and Ceylon, 279; other Eastern ports, 7,138; Islands, 741 cases.

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ational Fruit & Mercantile Co., 6 olesale Fruit Markets, Franklin- et, Melbourne, Victoria.
Walshe & Co. (1937) Pty. Ltd., Davey St., Hobart, Tasmania.
och Bros. Pty. Ltd., Market-place, art, Tasmania.
& Lehman Ltd.—Sole Representa- s for New South Wales, Queens- d and South Australia.

NEW EXPORT REGULATIONS.

The Department of Commerce has completed a general consolidation of the regulations governing the grades standards and inspection of exports other than dairy produce and meat. The consolidated regulations have been subdivided into four principal sections, dealing with fresh fruits, dried fruits, canned fruits, and other products. They provide generally for trade descriptions to be applied to various goods, methods of supervision, inspection, etc.

OFFICIALS OF THE BRISBANE FRUIT MERCHANTS' ASSOCIATION.
Back row—G. Gall, R. Murray, R. Livingstone, A. Nicholson.
Front row—D. Mackay, D. Clark (Vice-Chairman), J. H. Leavy (Chairman), J. C. Arkell (Secretary), A. Martin (A. S. Barr).

BRISBANE FRUIT MERCHANTS' ASSOCIATION.

Tenth Annual Meeting.

In the ten years since the Asociation was formed, the conditions in the fruit and vegetable industry in the Northern State have changed greatly, and have also improved. Production methods, transport, distribution and closer co-operation between all branches of the industry have been developed, resulting in higher standards of quality, grading, packing, and labelling, which have resulted in increased consumption.

About 80 per cent. of the Brisbane fruit merchants are now members of the Association, and the co-operation between growers and merchants is reported to be most encouraging.

The following officers were elected at the annual meeting:—President, J. H. Leavy; Vice-President, D. Clark; Auditor, F. Cooksley; Committee, G. Gall, R. Livingstone, R. Murray, D. Mackay, A. Martin, A. Nicholson. The Secretary is J. C. Arkell, Turbot-street, Brisbane.

SALE NOW ON.

"Why does a hen cross the road?"
"If she is an old hen, she probably has her eye on some bargain sale on the other side."

VICTORIAN FRUIT MARKETING ASSOCIATION.

At the monthly meeting of the Executive Committee of the Victorian Fruit Marketing Association on June 4 (Mr. G. W. Brown presiding) the items dealt with included:—The Port Brisbane Case, New Shipping Agreement, Requests for variety Ballarat (Stewarts Seedling) for inclusion in export list, Trade with the East, Apple and Pear Publicity Campaign, Allocation of Shipping Space, Increased cost of Canadian cases, uneven floorage in railway trucks, Export Quota, Remission of Sales Tax on pure fruit drinks, Agreement with N.Z., Trade with the Continent, Storemen and Packers Union Award, Sale of Fruit by Count, Victoria Dock Cool Store and Cultural Research.

At a meeting of the Executive held on June 25, Mr. G. W. Brown presided.

There were also present: — Messrs. W. H. Carne and A. S. Harrison (Vice-President), J. G. B. McDonald, M.L.A., F. Moore, A. Perry, S. Brown, H. M. McLean, G. Douglas, K. V. Eagle, R. A. W. Bailey, G. H. Sprague, W. P. Hutchinson, F. Cave, J. J. Tully, J. M. Ward (Superintendent of Horticulture), E. N. Robinson (Commonwealth Co-ordinating Officer), and the Secretary, R. E. Boardman.

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Sail every Saturday for Townsville and Cairns.

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CITY FRUIT MARKETS, SYDNEY

Cool Storage Enquiry.

The Chairman referred to the questionnaire which had been sent to metropolitan and country stores asking for information re cool storage space available. He considered that the information sought would be of no value with regard to possible storage of meat, rabbits, etc.; he had endeavoured to have country fruit stores excluded from this form of enquiry. The main question had reference to rebuilding portion of the cool store at Victoria Dock. Further reports would be presented in due course.

Cultural Research.

Negotiations were proceeding with every prospect of success for funds for cultural research, as distinct from any deduction from grants to growers in lieu of freight reduction. A letter from this Association expressing approval of the cultural research programme was being sent to the Department of Commerce at Canberra.

Trade with the East.

The Chairman reported meeting of sub-committee on June 18, when Mr. Lawford's letter was considered in relation to methods for controlling quantities going forward to the Near East. The Eastern Trade Commission reported:—

(1) That unregulated consignm to the Near East were highly in ous and some means for contro quantities should be devised.

(2) Recommending the Austra Apple and Pear Export Council consider means of controlling ex to the Near East markets and need for organising a system for disposal of Apples not up to pr export specifications.

The Committee's recommenda to the Victorian Fruit Marke Association were as follows:—

"That a stable fruit export with India and the East cannot built up while indiscriminate ments are made with no regard to requirements of the market."

"That it be a recommendation growers and shippers that selling on consignment in these limited kets, is likely to prove gerous to them and that their s method of exploiting these marke by forward sales through repu houses in touch with these mark

"That it be a recommendation the Victorian Fruit Marketing A ciation to the Executive of the tralian Apple and Pear Export C cil that a deputation from that should wait on the Minister for Tr Treaties with a view of implem ing the recommendations containe the report of the Eastern Trade C mission."

"That the recommendations above should be sent to the State C stituent Associations of the Aus lian Apple and Pear Export Cou for their information so that t delegates could take the neces action at the next conference. recommended that the Austra Apple and Pear Export Cou should convene a conference of t interested in the Eastern trade days before the annual council ference.

(Continued on Next Page.)

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P. S. MACDERMOTT,
General Secretary,
215a Thomas St., Haymarket, Sydn

the Victorian Fruit Market-
ociation should approach the
an Apple and Pear Export
with a view to taking steps
it the Eastern Markets with
lower quality than the pre-
ndards by using a different
or other distinctive methods."
Moore stated that the
ndustry had come to the
of the ways—the Australian
was our best market, and
be developed. There had been
ency to export high quality
and there was a danger of los-
good market in Sydney for
iality Pears.
is decided to send a report of
stern Trade Commission to
ember of the Executive.

emen and Packers' Union.

Chairman reported conference
essrs. P. J. Clarey, M.L.C., and
, Federated Storemen and
' Union of Australia, on June
en various details concerning
sent award and desired amend-
were carefully examined.
as not intended that the
ed award should apply to
d labor but only to the
rees in the packing sheds. The
n of overtime was one which
affect the industry.
r a full discussion, Mr. Moore

at a copy of the Storemen and
s' Wages Board Determination
erred to the Cool Stores Asso-
in order to get the report
he Employers' Federation as to
ability of the fruit industry in
nnection, and that if the advice
the fruit industry is liable to
olved, a joint committee from
ool Stores Association and the
ian Fruit Marketing Associa-
e called and that requisite steps
ten to prepare amendments."
S. Brown seconded. The
n was carried.
ssrs. A. Perry and F. Moore
appointed delegates from the
rian Fruit Marketing Associa-
with Mr. Hutchinson as alterna-
elegate.
was decided to send a copy of
toremen and packers' award to
member of the Executive.

Apple and Pear Publicity.

Chairman reported that details
nnection with the Apple and
publicity campaign were in

Secretary asked for advice (at
equest of Mr. F. Beet) as to the
bility of securing additional
es for distribution to State
ols, as present supplies were
t exhausted.
Moore expressed appreciation
he services so far rendered in
ection with Apple distribution
ddresses to State School scholars
of the valuable publicity thus
ed.
. S. Brown and Mr. Tully asked
ossibility of Apple distribution
taken over by the Publicity
mittee and for the purchase of
es for distribution.
Tully considered that the ex-
ture of £30 for 100 cases of
es for distribution for pub-
purposes would be money
spent. He stated that Apples
being sold at 1½d. each
school tuckshop—this price was
igh.
e Chairman promised to bring
e matters before the Interstate
icity Committee.

Sale of Fruit by Count.

. J. G. B. McDonald, M.L.A.,
ed that he was in full accord with
proposals for having large fruit
by count instead of by weight,
at the request of the Victorian
t Marketing Association had ap-
ched the Minister for Agriculture.
Minister had replied that this pro-
posal had been rejected by Cabinet; he would, however, receive a deputation on this subject. Mr. McDonald stated that he would notify the date of the deputation in sufficient time for all arrangements to be made.

Apple Publicity Campaign.

On the motion of Messrs. Tully and Cave it was decided to vote £50 to the Apple and Pear Publicity Campaign.

Sale of Inferior Fruit.

Mr. Moore directed attention to the continued sale and distribution of inferior fruit, particularly by motor truck, direct from orchards to country districts. A general tightening up under the regulations was needed.

Mr. Ward gave details of difficulties experienced in obtaining convictions. Wider powers were being sought and would be included in amendments to the Vine and Vegetation Diseases Act.

After discussion the Chairman stated it was the desire of the meeting that Mr. Ward should take as vigorous action as possible under present circumstances to minimise what was a known evil.

Next Meeting.—Decided to hold the next meeting on Friday, July 30.

The meeting then closed.

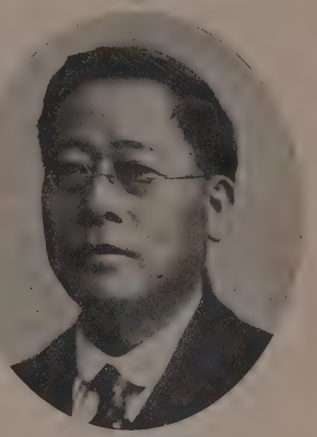
OBITUARY

Mr. H. Louey Pang

MEMBERS of the wholesale fruit trade regret the passing of Mr. H. Louey Pang, who had been engaged in the wholesale fruit business in Melbourne for the past 20 years. The funeral of the late Mr. Pang was attended by almost 1,000 persons at the Melbourne General Cemetery on June 8.

Apart from his commercial interests, Mr. Pang was held in high esteem by the Chinese Christian community, having been instrumental in establishing the Church of Christ Chinese Mission in Queensberry-street. He was one of its first interpreters, an officer of the Mission, and upon a visit to China in 1921 he selected a Chinese minister to come to Australia under engagement to the Mission. The Church of Christ Mission in Hong Kong was largely built up by the help of Mr. Pang.

The late Mr. Pang came to Australia in 1888 and except for several visits to China, had been engaged in business in Australia ever since. He leaves a wife and daughter in Elwood, where he had resided for some time prior to his death.



Mr. H. Louey Pang.

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New South Wales: Griffith Producers' Co-op. Co. Ltd.
Batlow Packing House Co-op. Soc. Ltd.

Australian Fruit Industry

Address to Rotarians

THE following interesting facts regarding the fruit industry of Australia were given in an address by Mr. L. J. Jenkins, President of the Chamber of Fruit and Vegetable Industries to members of the Rotary Club, Sydney, recently. During his very comprehensive and interesting address, Mr. Jenkins said:—

Whilst Australia geologically is a very old country, its development from the national point of view is comparatively new. In regard to the fruit industry, Australia had no native fruits, nor any fruit pests, both fruit and pests were imported. The pioneer nurserymen and growers had much to learn by way of trial and error, and a fascinating story in this connection remains to be written.

First came the supplying of our home markets with healthful fruits, then an export trade was developed. Now we need to increase our home consumption to absorb the huge quantities that are being produced. Fortunately science is on our side. Nutritional research has revealed the outstanding importance of fruit and vegetables from a food and health viewpoint. To develop healthy children there must be a preponderance of fruit and vegetables. People in the prime of life and those who are past middle age should need no reminder of the virtues of these kindly gifts of Nature; however, much educational work yet needs to be done.

A fractional increase in the consumption of fruit per head of population will lift the industry out of a difficult situation and in performing this national service the health of the people will be increased.

Production Figures.

Here are a few comparative and enlightening figures:—The world's Apple areas cover approximately 7,000,000 acres, of this Australia's share is 100,000 acres. Victoria leads with 31,000 acres, with Tasmania second with 27,000 acres, and New South Wales third with 17,000 acres. Tasmania's production, however, is by far the most prolific, whilst New South Wales produces approximately 1,250,000 bushels from 17,000 acres. Tasmania produces approximately 6,000,000 from 27,000 acres — they actually expect up to 7,000,000 in a peak year.

There are some phenomenal instances of cropping in Tasmania. One tree of Pomme de Neige Apples produced 83 bushel cases, of which 73 cases were actually exported. From 100 trees of French Crab Apples, 3,000 bushels were picked. From two acres of Sturmers (approximately 200 trees), 4,200 bushels were exported in the one season.

Material Changes.

The most important changes that have occurred have been the direct result of the Great War. Prior to 1914, 75 per cent. of Tasmanian fruit and 50 per cent. of Victorian fruit were sold on the wharf and delivered either to buyers' stores or waggons.

The soldier settlements, about which a complete story occupying hours could be told, after a very unfortunate start, have since become the most important areas of fruit production of the mainland. The Murrumbidgee Irrigation Area may be mentioned for example. In the M.I. Areas all fruits—excepting tropical fruits, can be grown, and production and quality are well above the average.

Decentralisation.

Whilst performing many useful functions, the co-operative packing houses have changed certain aspects of trade custom, the benefit of the result is very debatable. For instance, decentralisation of trade from Sydney markets is one of the major functions of the co-op., and many leaders of the distribution section of the industry believe that severe economic loss is continuing to accrue to the industry because of such decentralisation.

You will more readily realise the effect when you are told that all country sale values are based on the w ened Sydney parity. Export qu for Apples and Pears of recent have been fixed at approximate million bushels, whereas previ Australia exported up to 6½ mil This is to stabilise the U.K. ma

The elimination of several var of Apples from export was als termined. These, however, wer lowed to be marketed in Aus and the majority came to Sy during our worst depression y and chaos reigned with prices at levels. Growers were faced wit problem of continuing loss or grafting over to or replanting p lar varieties. However, synchron with this crisis period a Tasma grower developed a new system ed "Porcupine Grafting." This a ed the whole aspect of the Appl dustry in Australia. The new tem, instead of giving the tree a mendous shock, invigorated it hard pruning operation, as the n limbs were allowed to remain, and laterals only were removed. gave the tree the appearance o porcupine, hence the name.

The effect of this new grafting tem has been to remove from the dustry approximately one hund (100) varieties of unwanted fruit replacing them within two or th years with long lines of a few po lar varieties. At least 50 per cent the Apple production of Tasma was affected and had not Tasma adopted this new system, she wo have ultimately lost the Sydney m ket. The new system of refurnish can be said to be one of the great changes with the greatest benefit.

Cold Storage.

Cold storage has proved a gr boon to the fruit industry in assist it over glut periods and for spe use in respect to the canning f industry. In this connection it ables fruit of uneven maturity to brought up to the same stage b short term in cool storage. Howev in regard to fresh fruit market so tragic examples of the breakdown condition occurred by the stupid of cool storage by holding fr therein past its time.

Valencias and Washington Navel

The advent of Valencias and t development of Washington Nav have stabilised the Orange indust Prior to the advent of Valenci common Oranges, known as Par mattas, were generally finished ab the end of July. Valencias matu about September and carry on un April of the following year. B selection has so improved the cro ping of Navels that full crops a now regularly assured. These Was ington Navels begin early in M and carry through until Septembe October, so that these two variet can now fill all practical Orange r quirements of the industry. This h sounded the death knell of Comm Oranges and Mandarins.

Orange Production.

The world's Orange production recorded at 243 million bushels, which U.S.A. produces 66 milli bushels, Spain 48, Brazil 16, Palesti 16, whilst South Africa and Austr lia each produce approximately million bushels.

The closer proximity of Brazil a South Africa to U.K. markets repr sents a serious menace to Austr lia's export trade. The Argentine only 19 days' voyage, and a consi erably lower freight operates.

Gas Storage.

The preservation of fresh fruit b the method of gas storage has bee given particular prominence recent as a consequence of the very success ful results obtained in England wi the gas storage of Bramley's Seedlin Apples. Relatively large quantitie are now kept in commercial ga stores for about eight months and thu compete with Apples arriving out

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ENQUIRIES ARE INVITED BY ADVERTISERS ON THIS PAGE FOR FRUIT FOR EXPORT OR SALE ON THE ADELAIDE MARKET

Market Notes and Prices

it Prices in the Sydney Market

urvey of Operations from May 26 to June 26, 1937

T. Pearce, Market Representative, Fruitgrowers' Federation of N.S.W.)

A Dismal Period — Wettest June for Forty-one Years — Fruit Consumption Reduced — Orange Values Assisted by Light Supplies — Strawberries and Tomatoes Appear from Queensland — Citrus Export Commences.

POSAL of the large quantities of Apples available received no encouragement during the under review from the wet r conditions in Sydney, and e portion of the State. er such conditions it becomes ap- that consumption of Apples t improve while the inclination arm foods is not directed by sing to the satisfying nature ed Apples and hot Apple pie. osition has occurred repeatedly any years without the Apple r attempting to influence inclination.

:

gation Area supplies of Navel es have steadily increased, and ght crop in metropolitan and l districts has prevented any upply. In addition, the wet er experienced on the coast made ies uncertain, and values, when ng, were more readily checked ort of citrus commenced dur- he month by the despatch of a ent of 8,000 cases of Washington s to Canada per "Manowai." gnments have also travelled to ast and further shipments are to leave for the United King-

es:

ce June 1, almost 155,000 cases Apples have arrived from Tas- a. Many arrivals were small

---

STRALIAN FRUIT INDUSTRY.

(Continued from page 32.)

n from the Southern Hemisphere. store is kept at about 40 deg. F.. made as gastight as possible. ever, gas storage is still experi- tal, and must be used in conjunc- with refrigeration and controlled peratures.

Administration.

part from the N.S.W. Banana keting Board, which takes com- e control of the fruit and every- else included, grower and mer- nt alike, all other organisations voluntary. The most complete wers' co-operative organisation in Commonwealth is the Committee Direction, Queensland. They do acquire the growers' goods, but y provide every facility for him, uding a market sales floor in Bris- e and Sydney, together with a plete transport and buying or- isation.

Distribution Section.

n respect to the distribution sec- , trade associations of the usual racter attend to the requirements the traders. The trade and the stry are much indebted to the k of this section.

Finally:

We have had in the trade a few n who have dishonored it. What de or profession has not suffered like manner? Unfortunately, pre- ice and suspicion are rampant, and fruit agent has no friend, al- ugh by and large he gives remark- le service every work day of the ar and on many holidays when other siness men are away enjoying them- ves.

The fruit industry is a great in- stry—full of possibilities—full of als and worries—but I am proud to associated with it and those en- ged therein.

French Crab, Geeveston Fanny, Scarlet Pearmain and Sturmer Pippin that were extremely slow to move, and they only realised 3/- to 4/-. Demo. and Sturmer Pippin of any size have not been wanted. Supplies from Victoria included Del., Buncombe, Jon. and R.B. chiefly.

Large-sized French Crab were available at a low figure, and the value of N.S.W. G. Smith were probably affected thereby, especially quality fruit. With the gradual disappearance of Jon., Scarlet, Geeveston Fanny and Tasma Pride, also R.B. experienced better request. Despite the excessive supplies of small Apples upon the market, the N.S.W. fruit can be regarded as having sold at a satisfactory figure. Prices:—Buncombe (N.S.W. and Vic.), 5/- to 3/-; Cleo. (Tas.), 3/6 to 6/6; Crofton (Tas.), 5/- to 7/-; Del. (Tas. and Vic.), 4/- to 9/-, N.S.W. 5/- to 14/-; Demo. (Tas. and N.S.W.), 3/- to 5/6; French Crab (Tas.), 3/6 to 6/-; Geeveston (Tas.), 3/- to 6/-; Grannies (Tas.) to 8/-, N.S.W. 4/- to 8/-; Jon. (Tas. and Vic.), to 7/6; N.S.W., 4/- to 8/6; Romes (Vic. and Tas.), 4/- to 7/-; N.S.W., 4/- to 8/-; Pearmain (Tas.), 3/- to 5/6; Sturmer Pippin (Tas.), 3/- to 4/-; Tasma Pride (Tas.), 3/- to 6/6; Winesap (N.S.W.), 4/- to 9/-. Shipping and extra fancy higher, domestic 1/- to 2/- lower.

Pears:

Victoria contributed a large quantity of Pears, whilst a few W. Cole also came from Tasmania. N.S.W. supplies were marketed steadily, both Winter Cole and Packham's Triumph improving in value early in June, and only as the quality became slightly affected by cool storage, were values eased a little to enable the clearance of this fruit. Pears can be regarded as having sold at a very satisfactory figure. Prices:—Bosc (N.S.W. and Vic.), 5/- to 7/6; Glou Morceau (Tas.), 6/- to 9/-; Howell (Vic.), 5/- to 7/-; Jos. (N.S.W. and Tas.), 6/- to 9/-; P. Triumph (N.S.W. and Vic.), 7/- to 11/-; W. Cole (N.S.W. and Tas.), 7/- to 11/-; W. Nelis (N.S.W., Vic. and Tas.), 6/6 to 10/-. Shipping and extra fancy higher, domestic 1/- to 2/- lower.

Bananas:

Arrivals of Bananas at Sydney totalled 30,300 tropical cases, approximately 23,000 less than this time last year, and less than the average for May this year. Consignments were also forwarded direct to Broken Hill and Newcastle. Some difficulty was experienced at times in moving all fruit available, and values eased towards the end of the month. Prices:—Per Marketing Board N.S.W. and Q'land, regulation graded, first quality fruit, six, seven, eight and nine inch, 16/- to 21/- trop. case. Specially selected country order fruit higher.

Grapefruit:

Although locally grown Grapefruit was not in excess supply, values were comparatively low. The best fruit was some from Narromine which arrived at the beginning of June and realised to 10/- and 11/-. Small supplies were available from S.A. which realised up to 15/- bush. Cal. supplies continued and had preference even at the high price of 30/- to 40/- per Cal. case. Prices:—U.S.A., 30/- to 40/- Cal. case; N.S.W., new season, local 4/- to 7/-, inland 8/- bush; S.A., 10/- to 12/- bush.

Lemons:

Wet weather conditions saved producers the cost of forwarding small Lemons that would not have realised a payable price. Small fruit was in excess supply, until rain interfered with operations. Inland supplies were not in any quantity, and there were only a few cases available from Vic. Prices:—N.S.W., special and standard, local, counts 125 to 198, 5/- to 6/-, counts 234 to 270, 3/- to 4/6, smaller 2/6 bush.; plain grade, 2/- to 4/-; inland, 5/- to 8/- per bushel. Two bushel crates, inland, 9/- to 16/-.

Navel Oranges:

Increasing supplies of Navels appeared chiefly from the Irrigation Area, and was largely very big in size. A great demand existed for counts 138 to 163, and even smaller, and vendors had difficulty in maintaining values for counts 64 to 100. Coastal supplies were reduced by weather conditions, and the shortage induced by bad weather enabled a recovery to be effected. A few S.A. Oranges were forwarded and sold at from 10/- to 12/-. Prices:—N.S.W., special and standard, counts 64 to 88, local 5/- to 6/6, inland 5/- to 7/-; counts 100 to 125, local 6/- to 8/-, inland 6/6 to 8/-; counts 138 to 163, local 7/6 to 8/6, few 9/-, inland 7/6 to 8/- few 9/-; counts 175 to 198, local 6/- to 7/6, inland 6/- to 8/-; counts 216 to 252, local 5/6 to 7/-, inland 6/- to 7/- bush. Plain grade, 4/- to 7/- bush.; S.A. 10/- to 12/- bush. Two bushel crates, 10/- to 13/-.

Other Oranges:

These experienced excellent request owing to the shortage of Navels of medium size, and Joppa. Patterson River and other types were wanted by retailers of the 6d. dozen line, and by juice extractors at a little lower price. Prices:—Siletta, 3/6 to 6/-; Joppa 4/6 to 7/- bush.

Mandarins:

Values were to 9/- early in June, but receded to 8/- a little later. A marked decrease in quantities was observed, but supplies were quite sufficient for requirements and very small fruit was inclined to hang in the market. Q'land forwarded both Glen Retreat and Emperor, but the usual sweetness was not apparent in the former type. Prices: — N.S.W., special and standard: Emperor, counts 160 to 240, 7/- to 8/- few 9/-, counts 260 to 300 5/- to 6/6, counts 320 to 400 3/- to 5/6 bush. Q'land: Glen Retreat 10/- to 13/-, Emperor 7/- to 8/- bush.

Papaws:

502 tropical cases arrived from Q'land, the fruit varying in value from 10/- to 12/- early in June, to 15/- to 18/- later in the month. At the beginning of June 220 cases arrived per week, while at the end of the month, the quantity had been reduced to 39 cases.

Passion Fruit:

The low values of 2/6 to 7/- that had ruled at the end of May disappeared by June 14, and from then until the end of the month were mostly at 8/- to 12/-. Sales at times went to 14/-, and processors purchased the poorer quality fruit at 2/6 and 3/- per half bushel case. Most arrivals are from Mangrove Mountain, and on the 24th inst. supplies were observed from Vic. The Vic. fruit sold around 14/- bush.

Pineapples:

Arrivals for the month from Q'land. totalled 6,687. More than 50 per cent. of this fruit was consigned by Q'land. growers to the C.O.D., and prices were largely stabilised at 8/- to 14/-.

Strawberries:

These appeared from Q'land. during the first week in June, and, before the end of the month, arrivals had increased per week to 750 trays and 30 crates of boxes. Weather conditions being both wet and extremely cold did not encourage consumption, and low prices usually were received. Present values are 3/- to 5/- per tray and 8/- to 12/- per dozen boxes.

Tomatoes:

The cold weather experienced at the end of May reduced N.S.W. supplies. Soft fruit of poor keeping quality resulted, and the Q'land. arivals on June 1 were very welcome. The Q'land. fruit came chiefly from the Bowen district, but small supplies also came from the Brisbane market and the Cleveland district. By the end of June 12,000 half bushel cases had arrived by the one train. At the time of writing values for Q'land. fruit were at 4/- to 5/-, with N.S.W. at 3/- to 5/- and special Walker's Recruit to 9/- half bush.

VICTORIA.

Market Report for June.

AS was expected, June turned out to be merely an average month. Extremely cold weather conditions militated against heavy selling and eased prices all round. In citrus lines coloring took longer, and affected the market somewhat. Apple demand rose slightly, but was taken care of by heavy supplies. Wet weather conditions in N.S.W. affected some imported lines.

Citrus.—Oranges were heavily supplied, but received a good demand. Navel quality was only fair. Prices were good up to the middle of the month. Lemons were very slow moving. There was a fair supply of metropolitan fruit, but prices were on the low side. Grapefruit was slow for all except good, prime, large-sized fruit.

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Small samples and poor quality lines were almost unsaleable. Mandarins were good up to the last week, when they eased, owing to the cheaper N.S.W. lines selling at low prices. Good Reds sold well.

Apples.—The demand rose, although supplies were heavy. Jonathans were steady. Enquiries were strong for Delicious and Grannies. Prices all through were normal.

Pears.—Some movement in Packhams, but Buerre Bosc went to low prices.

Bananas.—Some lines badly affected by frost and transport, making ripening very unsatisfactory. Other lines were well supplied to a good demand at fair prices.

Pineapples. — Although supplies were light the demand was lighter. It seemed hard to quit Pines because of the cold snap. Prices remained high. An earlier dry spell in Queensland affected color, and this was detrimental to sales.

Beans sold extremely well on stocks from N.S.W. and Queensland.

Peas were affected by frost and the quality was poor. In spite of this, however, good prices were reported through the month.

Melbourne (1/7/37).—Trading remains dull and values are without change. Prices quoted by Wholesale Fruit Merchants' Association are as follow: — Per case: Apples, eating, 2/6 to 4/6, few higher; cooking, 2/- to 3/6, few higher. Bananas, per double case, green, best, 13/- to 19/-. Celery, 7/- to 10/-; choice special higher. Grapefruit, 4/- to 8/-, few higher. Lemons, good quality, 4/- to 8/-. Mandarins, 5/- to 9/-, special selected, ripe, to 10/-, few higher. Passionfruit, 3/- to 6/- half case. Pears, 2/6 to 6/-, few higher. Pineapples, 9/- to 12/-. Tomatoes, 8/- to 16/-; Q'land repacked, 6/- to 8/- half case.

The Melbourne market manager of the Federal Citrus Council of Australia reports sales as follow:—Navel Oranges, average standards, 75-84, 4/6 to 5/-; 96-112, 5/6, few 6/-; 126, up to 6/-, few 6/6 and 7/-; good standards, to 8/-; selected standards, 5/6 to 9/-; specially selected, wrapped, 7/- to 11/-. Grapefruit, average standards, 5/6 to 6/-; selected standards, 5/- to 8/-, few specially selected wrapped higher. Lemons, average standards, 180-248, to 6/-; 270-300, 5/- small, from 4/-; selected, to 7/-; few 8/-. Mandarins, Emperors, N.S.W., 180-250, to 7/- and 8/-; 300, 5/-, few 6/-; 400, from 4/-; few selected Vic. to 9/-; few Q'land higher; selected red varieties, to 11/-; few 12/-; other varieties, to 8/- and 9/-. Seville Oranges, few smooth skinned, to 10/- and 11/-.

QUEENSLAND.

Brisbane.—Messrs. Robson Pty. Ltd. report, under date June 18, as follows:—All choice lines are at present selling freely, the following being our monthly report:—Apples: Jon. (keen demand), 6/6 to 8/6; G. Smiths, 7/- to 9/-; Cleos., 5/- to 6/6; Scarlets, 6/6; F. Crabs, 6/- and 7/-. Pears: W. Coles, 12/-, small sizes to 10/6; W. Nelis, 10/- and 11/-; Jos., to 10/-; Packhams and B. Bosc., to 9/-. Citrus: Navels, to 11/-; local Navels, to 12/-; Oranges, 7/- to 9/-; Lemons, 10/- to 14/-; Glen Mardarins, 9/- to 12/-, Emperors and Scarlets to 8/-; local Grapefruit, to 12/. Pineapples: Smooth leaf, 7/- to 9/-; roughs, to 7/-. Choice Passionfruit, 7/- to 9/-. Papaws, 10/- to 12/- trop. case. Strawberries are selling freely at from 10/- to 14/- per dozen boxes for choice brands only. Bananas: 6's, 9/- to 13/-; 7's, 12/- to 15/-; and 8's, 15/- to 17/-.

Produce: Potatoes £5 to £6/10/- ton; Onions, £12/10/-; Swede Turnips, £7; and Pumpkins, £3/5/-.

Brisbane (18/6/37).—During past month our market has been supplied with most lines, the s of Apples being exceptionally h Ruling values are as follows:—A Jon., 2½ 2¾, 8/-; 2¾, 6/6; 2¼, 6/-; colored Apples 6/- to 7/-; Cleos Sturmers, 5/6 to 6/- G. Smiths to 9/-. Pears: W. Coles, 10/- to small sizes, 7/- to 8/-; W. Nelis, 9/-; Jos., 8/- to 9/-; Bosc, 5/- to Packhams, 7/- to 8/-. Ora Navels, 8/- to 9/-; Joppa, 8/- to Mandarins: Glen Retreats, 10 12/-; Scarlets, 9/- to 10/-; Emp 7/- to 8/-. Lemons, 9/- to 10/-. tard Apples, 3/- to 3/6 quarter Pineapples: Roughs, 7/- to 8/- smooths, 6/- to 7/-. Passion 8/- to 9/-. Bananas: 14/- to 16/- Tomatoes: 2/6 to 3/6. Cabbage to 5/- doz. Cauliflowers: Large to 10/- doz.; small, 5/- to 6/-. 9/- to 10/- sugar bag. Beans: 7/- sugar bag. Swede Turnips: cwt. Pumpkins 3/6 to 4/- cwt. Pot 6/- to 7/- cwt. Sweet Potatoes, 5 6/- cwt. Root vegetables, suc Carrots, Beetroot, etc., are now plentiful and low prices prevail

WEST AUSTRALIA.

Perth (26/6/37).—Apples: J dumps 5/- to 12/- (special to 1 Dunns, 3/- to 7/-; R. Beauty, 4 7/-; Yates, 4/- to 10/- (inferior 3/-); G. Smith, 4/- to 10/- (speci 11/-); Cleos., 3/- to 7/3 (speci 8/-), Nickajack, 5/- to 7/-; Del to 11/- (special to 12/-). Ci Navels, flats 2/6 to 6/3 (inferior 1/6); dumps, 3/6 to 7/6 (special 8/-); Lemons, 2/- to 6/-; Manda 3/- to 11/- (special to 15/-); P flats 8/-, dumps 10/6; Tomatoes, to 14/- (special to 16/-, inferior 2/-).

NEW ZEALAND.

Dunedin (18/6/37) — Me Reillys Central Produce Mart Ltd port as follows:—Fair business been experienced during the w Large consignments of Apples still arriving, and first quality h satisfactory enquiry, second g lines being difficult to dispose Prices for good dessert and cook Pears have firmed. Small cons ments of hot-house Tomatoes being received, and values are fir

S.A. Navel Oranges are now cle out of wholesalers hands, and plies are being booked for the n shipment. A further shipment Cook Island Oranges came to h the fruit generally being in g order, but unfortunately sales slow.

A small shipment of green Sam Bananas ex the "Matua" is due n week. Ripe Bananas are realis low values.

Increased supplies of Passionfr have been coming to hand. Marmal Oranges are wanted, values, owing the short crop, will remain high t season.

Prices (Per Case).—Oranges: Vals., 45/-; Aust. Navel Oranges, 1 to 22/-; Island Oranges, 14/- to 21 Cal. Lemons, 70/-; Grapefruit, 45 Bananas, ripes, 18/-; Mandarins, 22 Pines, 25/-; Pears, Coles 6/- to 8 W. Nelis 6/- to 8/6, cooking Pe

Herbert Wilson Pty. Ltd.

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Here is a suggestion: Ask the nearest A.M.P. office to send an experienced adviser to talk this matter over with you. Asking entails no obligation whatever, but ask to-day. Something may happen to you before to-morrow—who knows?

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The Pig Pen

PREPARING PIGS FOR SHOW.

Hints for Intending Exhibitors.

for exhibition require to be ll fed, but should not be over- t, as this seriously affects fterwards as satisfactory , says a writer in the "N.S.W. ural Notes." They should be rcised daily, and handled care- that, when being paraded he judge they are tractable ly handled, and may be shown tage.

igs should be paraded to be seen; they cannot be seen to ge while in the pens. Many a g gives a bad account of it- ugh not being properly trained it to quiet handling. This, of takes time and patience, but it e done if the best results are to ined.

convenience in caring for and g the show pigs, they should t by themselves and not allow- run with the general herd. If e, their exercise should be on reen pasture, where ample clean g water and shade is provided.

Preparation.

r the pigs have been selected various classes in which it is d to compete (it being quite a dea to have one or two substi- repared in the younger classes, on pig classes, in case of acci- , the animals should be washed arm water and soap, and after ave dried, a liberal dressing of ould be applied, which will re- the scurf and dirt from the skin air. Old sump oil from cars e used for black pigs. For red ite pigs apply some of the fol- g mixture: — Fish oil 6 parts, e ½ part, kerosene ½ part. s oil is preferably put on in the g and not in the morning, in or- guard against the influence of eat of the day. Several wash- and applications of oil may be sary, the object being first of all t the skin and hair of the pig ughly clean, when the final touch- p will give good results. fore judging, the animals re- grooming with an oily brush nut oil being used in this case), ot smothered with oil as is seen times; and when this is care- done, the animals will have that y, clean skin and hair which adds ly to the appearance of the pig paraded.

SITE FOR THE PIGGERY.

Points in its Selection.

part from the regulations under Dairies Supervision Act, under h pigs may not be kept nearer 50 yards from any milk room, or yard, several points are to onsidered when choosing a site the piggery, advises the N.S.W. ricultural Notes."

the first place, the site on which piggery is to be located should lend f to being effectively drained. It ld have a gentle slope, without g steep, and if the aspect is to the , it will be so much the better in greater part of the State. The nage should be of a surface kind, result of the fall or slope, and ld not depend upon underground ns, which are apt to get chocked nd can never be kept in the same tary condition as those to which sunlight has access.

If there is a piece of rough ground on the farm that is conveniently situated and otherwise satisfactory, it may be very suitable for the piggery. Regard must be had, too, for the position of the residence, for if the prevailing winds carry the smell of the piggery to the dwelling, one or another will probably have to be moved quite soon.

Light, absorbent sandy loams are preferable to stiff clays or soils with a clay subsoil. Clays are apt to become saturated with offensive matter in time, and thus to give rise to unhealthy conditions, especially during wet weather. Where there is a good fall, however, clays are less objectionable.

THE YOUNGSTERS.

Young pigs should be fed at least three times a day to prevent them bolting their food. Great care should be taken that the food is sufficiently nutritious and easily digested. On cold mornings a little boiling water might be added.

Little pigs often become cramped through insufficient exercise, so a run for a few minutes will relieve the cramp which, after 15 or 16 hours in the nest, may become serious.

Pigs are certain to become cramped in sties where bedding is liable to become damp, either through a leaking roof or poor drainage. If the sty is draughty or the straw wet before being placed in the sty, the danger is greatly increased.

SICK PIGS ARE UNPROFITABLE.

The healthier the pigs the more rapid and more economical are the gains in live weight. Keep your pigs healthy by:—

1. Keeping the yards and runs free of mud holes.
2. Providing clean water.
3. Frequently and regularly cleaning and disinfecting.
4. Keeping quarters dry, clean and free from draughts.
5. Feeding proper rations.
6. Grazing pigs on clean pasture.

Poultry Notes

WHY SMALL EGGS?

NATURALLY everybody prefers a large egg to a small one, but so long as poultry keepers only think in numbers, they are courting the small egg trouble. Obtaining the quantity without strict attention to size is one of the causes, but another cause, perhaps more important, is the lack of proper attention to the growing chick. Encourage your chicks to stuff their crops from babies. If the crop is distended to its fullest from the beginning, the organs of that chick are going to receive the full nourishment that they need to grow and be fully developed when the chick has reached maturity.

One serious cause of the small egg is the undersize of the productive organs. If these organs are undeveloped they cannot promote or pass a full-sized egg. The egg travelling along the tract, collecting bit by bit until it is a finished egg, can only be the size that the tract allows it to be. Experience over years of breeding has proved that very early hatched pullets generally lay a small egg. They mature too early, lay too early, their eggs are small to start with and never increase to a large egg, although they were hatched from full-sized eggs.

Pullets that start with 1½ oz. eggs, only laying two or three eggs a week, should be marked—they are worth it. A pullet which lays small eggs in her pullet year, but a full-sized egg in her first year, should not go into the breeding pen. You will get the same results from her progeny. If a pullet starts off with a good sized egg, she will very soon get to full size and keep it up all her life, as she has started fully matured, with fully-developed productive organs, which makes all the difference in the size of egg.

THE CAD AT EVE.

Husband: "If a man steals, no matter what, he will live to regret it."

Wife (coyly): "You used to steal kisses from me before we were married."

Husband: "Well, you heard what I said."

GOOD FOOD—AND PLENTY.

The first thing that a fowl does with the food that she assimilates is to repair waste tissues and to provide for bodily wants. If she has any left over she turns it to eggs or fat, according to the methods of feeding. Nine times out of every ten the main reason why pullets are not laying well in Winter is that they are not being fed sufficiently well. Either they are not getting enough to eat, or the ingredients of the mashes are not properly balanced. This latter means that she is being fed too much of one kind of food at the expense of another, and, of course, at the expense of the eggs. Not only is it necessary to feed good mashes, and feed plenty of them, but the grain mixture must also be a good one.

The birds want a good feeding of grains (if possible mixed) each evening, so that they will go to roost for the long night with a full crop, as well as after having had plenty of exercise. To get this exercise the grain must be fed in a litter. The object of floor litter is to promote exercise for the birds if they are kept in confinement. For this reason there is no better litter than straw. Anything else, like dried leaves or pine needles will do, but whatever is used it must be renewed often enough to keep it reasonably dry and clean.

Layers do not like to scratch in damp, dirty litter, and it is certainly time to draw the line when they do. The scratching in damp litter will do much harm, and will lead to a reduction in the number of eggs that will be collected. When the litter is deep it is a pleasure to see the enthusiasm with which the hens go about their scratching. They get plenty of grain, and they get plenty of exercise in getting that grain.

FERTILISING ELEMENTS IN FOWL MANURE.

Fowl excreta is comparatively rich in manurial constituents, but naturally varies to some extent in actual composition. The following is an analysis of average fresh fowl manure:—

Nitrogen	1.6 per cent.
Lime	2.8 per cent.
Phosphoric acid . .	1.7 per cent.
Potash	0.8 per cent.

Fowl manure enriches the soil in all manurial elements, and is particularly rich in available nitrogen and phosphoric acid.

SPECIAL NOTICE TO FRUITGROWERS

All Members under Fidelity Bond

In response to numerous requests from growers for information as to who are members of the

Wholesale Fruit Merchants' Association of Victoria

the following list is given. All are members of the above Association, and are registered firms carrying on business in the

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Office : 21 Wholesale Fruit Market, Queen Street, Melbourne. Phone F 4866.

Correspondence is invited by the Association.

Fertiliser Dressings

THE SOIL'S NITROGEN SUPPLY

"FEW PEOPLE seem to realise that the soil's available nitrogen supply fluctuates extraordinarily with weather conditions, and that the richest of soils may become, during certain periods of the year, very short of this essential growth element," says Mr. Owen Gepp, B.Ag.Sc.

NITROGEN is a most important plant food. Cultural and manurial practices on the orchard or vineyard should be aimed at maintaining a steady level of this element (in an "available" form) throughout each month of the year. An excess of nitrogen in a soil may have just as serious a consequence as a shortage. A feast followed by a famine, or vice versa, may also disorganise plant growth.

Two natural factors cause 90 per cent. of the fluctuations in the soil's "available" nitrogen. They are the **growth of plants and the activity of soil bacteria,** and they are complementary. Plant growth is responsible chiefly for loss of soil nitrogen. Growth of leguminous plants may, of course, result in a nett addition of nitrogen to the soil when they are ploughed down, but not until soil bacteria have rotted the leguminous growth and turned the insoluble nitrogen into a soluble or "available" form. This process takes weeks to commence and months to complete. Generally speaking, the growing of a green manure crop causes a famine of "available" nitrogen during the growing period of the crop and until bacteria commence the rotting process. A feast of nitrogen then follows as the organic material becomes decomposed. Thus in June, July, August and September orchard soils are short of "available" nitrogen, while they are generally well supplied in late Spring and Summer months.

Climate and Soil Nitrogen.

Climate has an indirect but very important effect on the fluctuations in soil nitrogen, because weather conditions control the activity of soil bacteria.

Many different kinds of bacteria exist in the soil, fighting each other for supremacy. Let us call these two kinds "friendly" and "injurious" types. Warm and moist soil conditions encourage "friendly" bacteria. Cold and wet soil conditions discourage the "friendly" types. During "cold-wet" or "hot-dry" periods, little or no "available" nitrogen is added to the soil naturally. On the contrary, during seasons of the year when soils are warm and moist, "friendly" bacteria flourish and build up large supplies of "available" nitrogen. Under irrigation conditions, the warm and moist late Spring and early Summer conditions produce a feast of nitrogen for plant growth. Conversely, during the Winter and early Spring, soil conditions being cold and wet, a famine in soil nitrogen [illegible]. The grower quite correctly say[s] soil is "cold" or "dead."

It can be confidently stated t[hat] matter how "rich" a soil is, th[ere] at least one period of the year [when] a light application of readily "[available]" nitrogenous fertiliser m[ay] profitably applied. For no m[atter] how much nitrogen is availa[ble] Spring and Summer in a soil, tha[t] can quite easily be very short of [ni]gen in August, September and [early] October.

Vineyard Manurial Practice

With reference to manurial [prac]tice in the vineyard, in the ca[se] vines showing insufficient growth leguminous green manure crops manure freely with phosphate. A[pply] not later than early August, 3-5 per acre 2:2:1 complete manure supplement this with a dressing 1-2 cwt. per acre sulphate of amm[onia] not later than September.

For vines of satisfactory vig[our] It is important to maintain growth green manuring with Beans or Ba[rley] sown with a good dressing of [phos]phate, and by applying not later the first week in August, 3-5 2:2:1 complete mixture or 6-8 cwt acre 3 and 1 super. and amm[onia] mixture.

In the case where a block has sh[own] excessive growth, eliminate legu[mi]ous green manure crops or rep[lace] them with Barley sown with su[per] and potash, and apply in early Au[gust] 3-4 cwt. per acre 2:2:1 mixture where growth is particularly trou[ble]some, use the 5:2:1 complete.

For Citrus, Apples and S[tone] Fruits.

The application of nitrogenous [fer]tilisers is not recommended u[nder] any of the above conditions for v[ines] after September, the contention b[eing] that after the end of October or November the natural supply of n[itro]gen produced by the action "friendly" soil bacteria is more sufficient for the vine's needs. same cannot be said in the case o[f] evergreen plant or tree such as cit since there is a greater demand nitrogen the year round in this c[ase] For citrus, in addition to a supply organic matter, a complete ma[nure] (4:4:1 mixture) is suggested for plication in July-August to be foll[owed] ed by applications of sulphate ammonia in November and agai[n in] February.

With Apples, the chief need is "early" fertiliser applications, again the 2:2:1 complete is stron recommended by authorities for plication in August. The bala between the three plant foods, c tained in this mixture, seems to particularly suitable to Apples. fact, so successful has the 2:2:1 b for this crop that it might well termed the "Apple Fertiliser."

Pears and Peaches demand m nitrogen than Apples, but again nitrogen is best applied early August. Peaches should receive f[rom] 2 to 4 lb. sulphate of ammonia tree, according to the size and vi of the tree and fertility of the Where it is desired to apply a c plete fertiliser, 4-7 lb. of the 4 mixture should be used. For Pe similar treatment can be given August. Occasionally, under irri tion conditions, an additional appl tion of 1-2 lb. sulphate of ammo is made to Pears late in the Sprin increase size of the fruit.

Most of Turkey's better qua Oranges will this year be sent Russia.

Algiers so greatly increased cit production last year that compara figures were well over 100 per c more than the previous year. M of the exports from Algiers go France.

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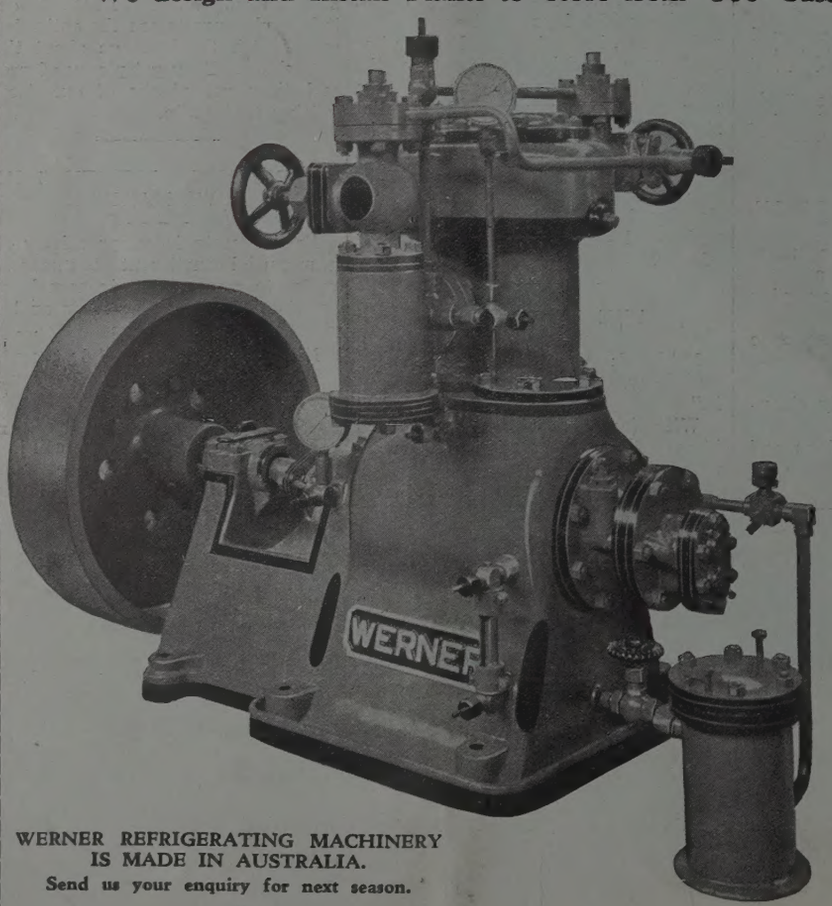

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